Final Environmental Impact Report
Environmental Assessment
Section 4(f) Evaluation (FEIR/EA)

EEA Number 13789

Capital Improvements Plan Provincetown Municipal Airport

Final

December 17, 2011

Federal Aviation Administration
Massachusetts DOT Aeronautics Division
Provincetown Airport Commission

Date:

FINAL DOCUMENT

Final Environmental Impact Report
Environmental Assessment
Section 4(f) Evaluation
(FEIR/EA)

Capital Improvements Plan
Provincetown Municipal Airport
Provincetown, Massachusetts

December 17, 2011

The Environmental Assessment becomes a federal document when evaluated, signed, and dated by the responsible federal official.

Michelle Ricci

Responsible Federal Official

12/12/11

Date

FINAL ENVIRONMENTAL IMPACT REPORT
ENVIRONMENTAL ASSESSMENT
SECTION 4(f) EVALUATION (FEIR/EA)
EEA No. 13789

Capital Improvements Plan
Provincetown Municipal Airport
Provincetown, Massachusetts

Submitted by:
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This Environmental Assessment becomes a Federal document when evaluated and signed by the responsible Federal Official.

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
FINDING OF NO SIGNIFICANT IMPACT (FONSI)

I have carefully and thoroughly considered the facts contained in the attached EA. Based on that information, I find the proposed Federal action is consistent with existing national environmental policies and objectives of Section 101(a) of the National Environmental Policy Act of 1969 (NEPA). I also find the proposed Federal action will not significantly affect the quality of the human environment or include any condition requiring any consultation pursuant to section 102(2)(c) of NEPA. As a result, FAA will not prepare an EIS for this action.

APPROVED:____________________________________ DATE:__________________

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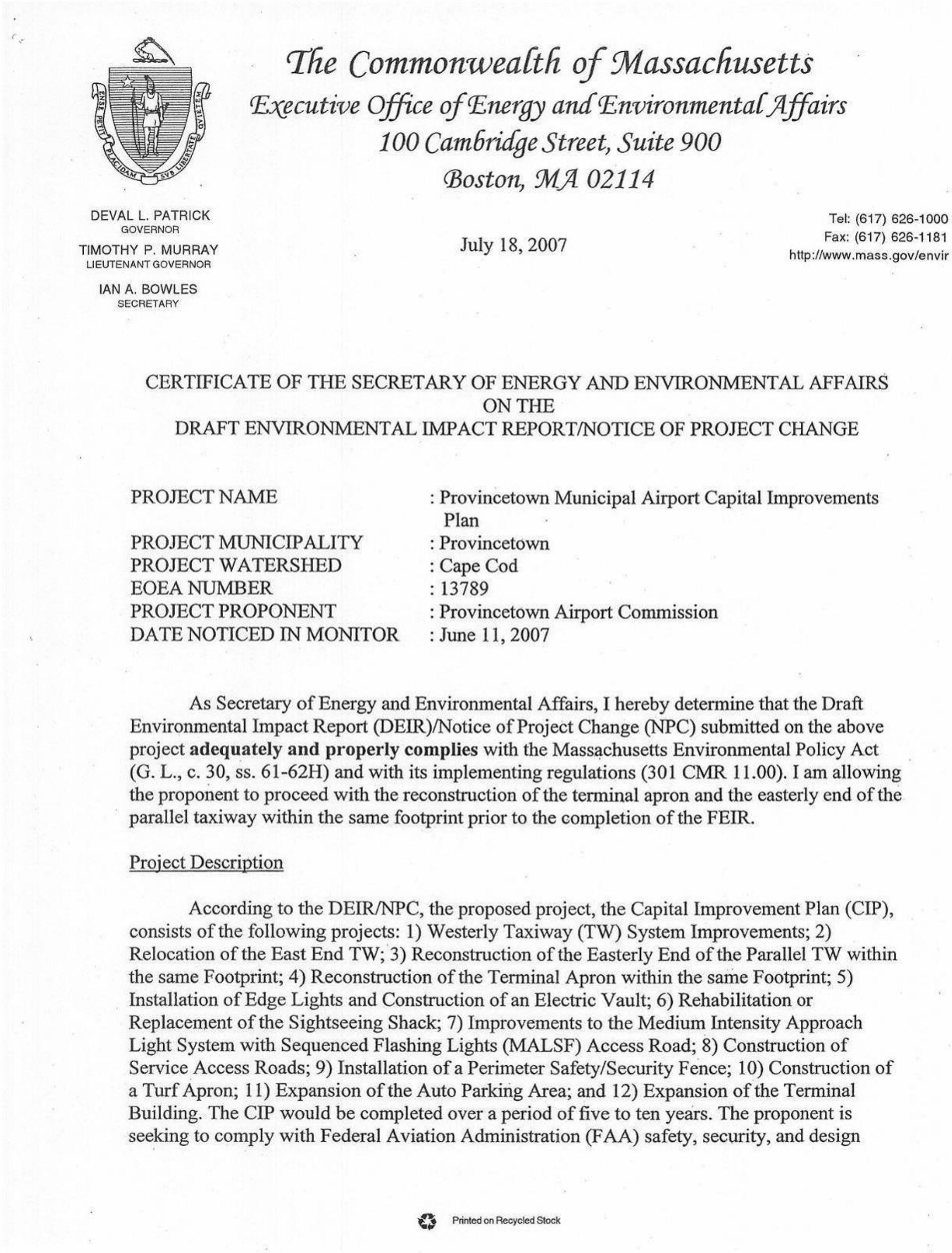
List of Abbreviations

ADG	Airplane Design Group
AIP	Airport Improvement Program
ALP	Airport Layout Plan
ALS	Approach Light System
ALSF-II	High intensity approach lighting system with sequenced flashing lights
AOA	Airport Operations Area
ARC	Airport Reference Code
ARFF	Aircraft Rescue and Firefighting Facilities
ARP	Airport Reference Point
ATSA	Aviation and Transportation Security Act
AWOS	Automated Weather Observing System
BOS	Boston Logan International Airport
BVW	Bordering Vegetated Wetland
CAT I	Category I Instrument Landing System
CAT II	Category II Instrument Landing System
CCC	Cape Cod Commission
CCNS	Cape Cod National Seashore
CCRTA	Cape Cod Regional Transit Authority
CIP	Capital Improvements Project
Db	Decibel
DbA	A-weighted Decibel
DHS	Department of Homeland Security
DME	Distance Measuring Equipment
DNL	Day Night Average Sound Level
DRI	Decision of Regional Impact
EA	Environmental Assessment
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FAR	Federal Aviation Regulation
FBO	Fixed Base Operator
FONSI	Finding Of No Significant Impact
GA	General Aviation
GS	Glide Slope
GPS	Global Positioning System
HIRL	High Intensity Runway Lights
IFR	Instrument Flight Rules
INM	Integrated Noise Model
ILS	Instrument Landing System
IVW	Isolated Vegetated Wetland
Leq	Equivalent Sound Level
LES	Localizer Equipment Shelter
LIRL	Low Intensity Runway Lights
LOC	Localizer
LOS	Level of Service
MassDOT	MA Department of Transportation Aeronautics Division (formerly Massachusetts Aeronautical Commission)
MALS	Medium Intensity Approach Light System

MALSF	MALS with sequenced flashing lights
MALSR	MALS with runway alignment indicator lights
MIRL	Medium Intensity Runway Lights
MITL	Medium Intensity Taxiway Lights
MM	Middle Marker
NAVAID	Navigational Aids
NDB	Non-Directional Beacon
NEPA	National Environmental Policy Act
NHESP	Natural Heritage Endangered Species program
NLR	Noise Level Reduction
NPDES	National Pollutant Discharge Elimination System
NPIAS	National Plan of Integrated Airport Systems
NPS	National Park Service
MEPA	Massachusetts Environmental Policy Act
OFA	Object Free Area
PAPI	Precision Approach Path Indicator
PCC	Provincetown Conservation Commission
PVC	Provincetown Municipal Airport
RCO	Remote Control Outlet
REILs	Runway End Identifier Lights
ROD	Record of Decision
ROFA	Runway Object Free Area
RPZ	Runway Protection Zone
RSA	Runway Safety Area
RW	Runway
SIDA	Security Identification Display Area
SUP	Special Use Permit
SWPPP	Storm Water Pollution Prevention Plan
TAF	FAA’s Terminal Area Forecast
TDM	Transportation Demand Management
TSA	Transportation Security Administration
TW	Taxiway
VASI	Visual Approach Slope Indicator
VFR	Visual Flight Rules



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July 18, 2007

CERTIFICATE OF THE SECRETARY OF ENERGY AND ENVIRONMENTAL AFFAIRS ON THE DRAFT ENVIRONMENTAL IMPACT REPORT/NOTICE OF PROJECT CHANGE

PROJECT NAME	: Provincetown Municipal Airport Capital Improvements Plan
PROJECT MUNICIPALITY	: Provincetown
PROJECT WATERSHED	: Cape Cod
EOEA NUMBER	: 13789
PROJECT PROPONENT	: Provincetown Airport Commission
DATE NOTICED IN MONITOR	: June 11, 2007

As Secretary of Energy and Environmental Affairs, I hereby determine that the Draft Environmental Impact Report (DEIR)/Notice of Project Change (NPC) submitted on the above project **adequately and properly complies** with the Massachusetts Environmental Policy Act (G. L., c. 30, ss. 61-62H) and with its implementing regulations (301 CMR 11.00). I am allowing the proponent to proceed with the reconstruction of the terminal apron and the easterly end of the parallel taxiway within the same footprint prior to the completion of the FEIR.

Project Description

According to the DEIR/NPC, the proposed project, the Capital Improvement Plan (CIP), consists of the following projects: 1) Westerly Taxiway (TW) System Improvements; 2) Relocation of the East End TW; 3) Reconstruction of the Easterly End of the Parallel TW within the same Footprint; 4) Reconstruction of the Terminal Apron within the same Footprint; 5) Installation of Edge Lights and Construction of an Electric Vault; 6) Rehabilitation or Replacement of the Sightseeing Shack; 7) Improvements to the Medium Intensity Approach Light System with Sequenced Flashing Lights (MALSF) Access Road; 8) Construction of Service Access Roads; 9) Installation of a Perimeter Safety/Security Fence; 10) Construction of a Turf Apron; 11) Expansion of the Auto Parking Area; and 12) Expansion of the Terminal Building. The CIP would be completed over a period of five to ten years. The proponent is seeking to comply with Federal Aviation Administration (FAA) safety, security, and design

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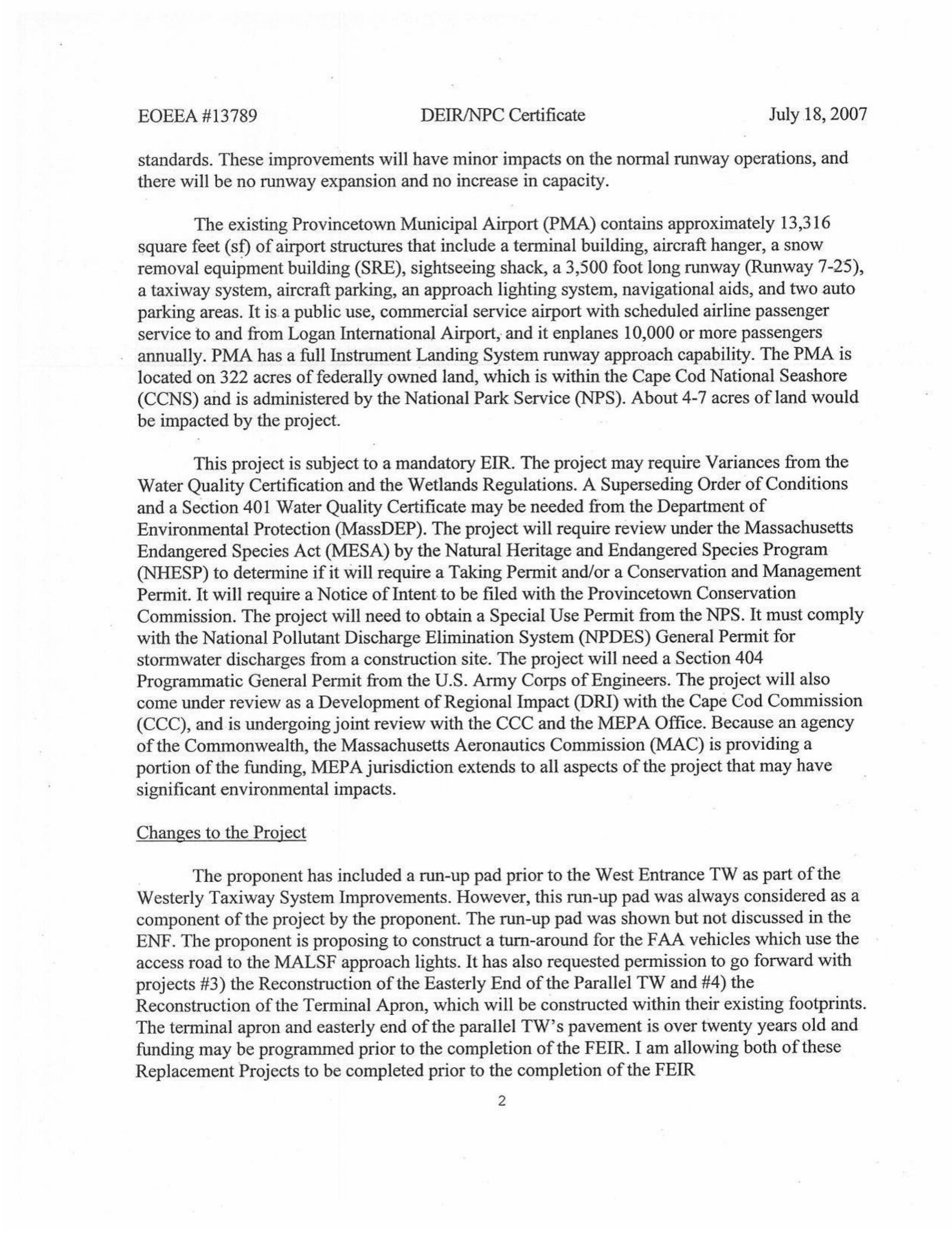


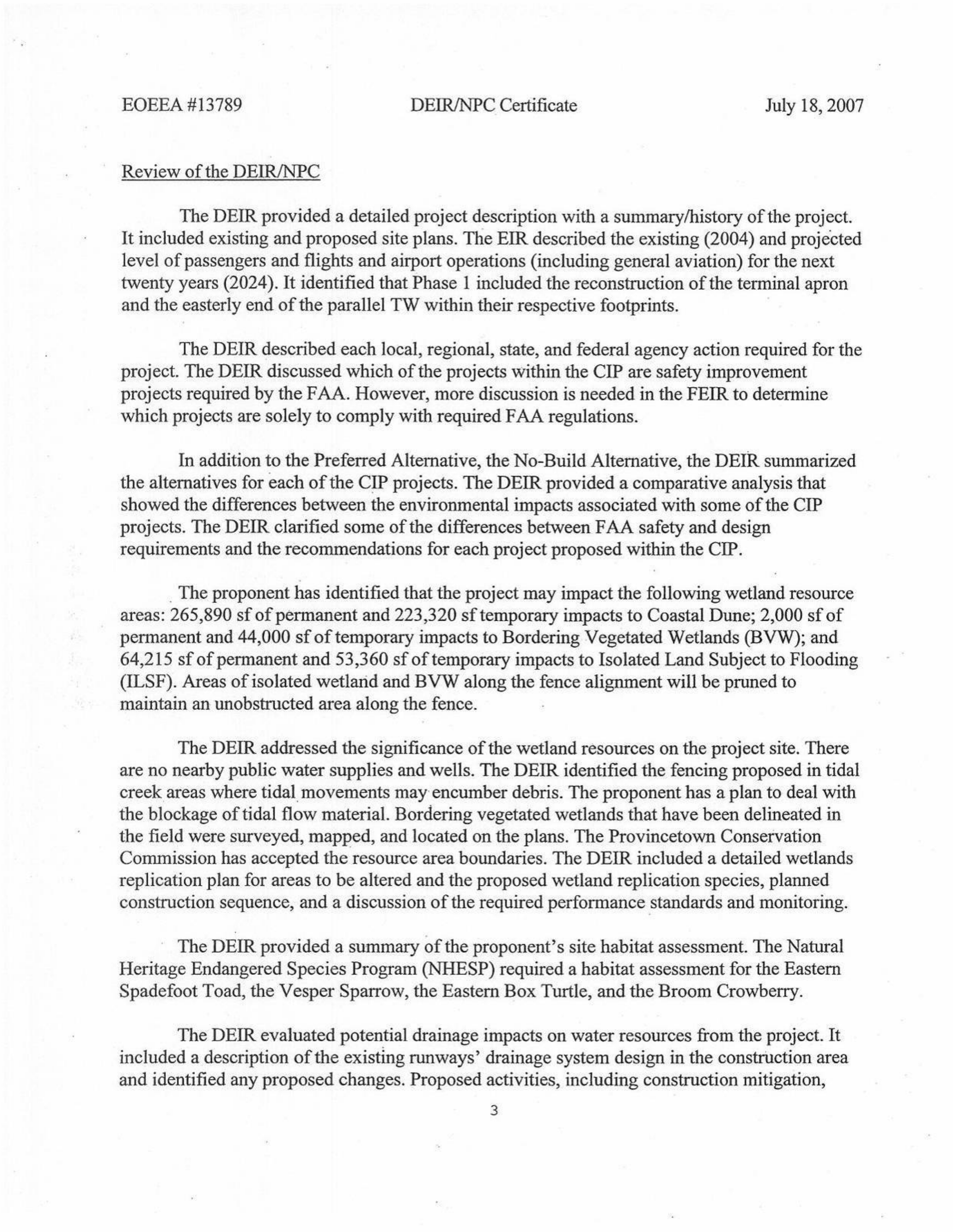
standards. These improvements will have minor impacts on the normal runway operations, and there will be no runway expansion and no increase in capacity.

The existing Provincetown Municipal Airport (PMA) contains approximately 13,316 square feet (sf) of airport structures that include a terminal building, aircraft hanger, a snow removal equipment building (SRE), sightseeing shack, a 3,500 foot long runway (Runway 7-25), a taxiway system, aircraft parking, an approach lighting system, navigational aids, and two auto parking areas. It is a public use, commercial service airport with scheduled airline passenger service to and from Logan International Airport, and it enplanes 10,000 or more passengers annually. PMA has a full Instrument Landing System runway approach capability. The PMA is located on 322 acres of federally owned land, which is within the Cape Cod National Seashore (CCNS) and is administered by the National Park Service (NPS). About 4-7 acres of land would be impacted by the project.

This project is subject to a mandatory EIR. The project may require Variances from the Water Quality Certification and the Wetlands Regulations. A Superseding Order of Conditions and a Section 401 Water Quality Certificate may be needed from the Department of Environmental Protection (MassDEP). The project will require review under the Massachusetts Endangered Species Act (MESA) by the Natural Heritage and Endangered Species Program (NHESP) to determine if it will require a Taking Permit and/or a Conservation and Management Permit. It will require a Notice of Intent to be filed with the Provincetown Conservation Commission. The project will need to obtain a Special Use Permit from the NPS. It must comply with the National Pollutant Discharge Elimination System (NPDES) General Permit for stormwater discharges from a construction site. The project will need a Section 404 Programmatic General Permit from the U.S. Army Corps of Engineers. The project will also come under review as a Development of Regional Impact (DRI) with the Cape Cod Commission (CCC), and is undergoing joint review with the CCC and the MEPA Office. Because an agency of the Commonwealth, the Massachusetts Aeronautics Commission (MAC) is providing a portion of the funding, MEPA jurisdiction extends to all aspects of the project that may have significant environmental impacts.

Changes to the Project

The proponent has included a run-up pad prior to the West Entrance TW as part of the Westerly Taxiway System Improvements. However, this run-up pad was always considered as a component of the project by the proponent. The run-up pad was shown but not discussed in the ENF. The proponent is proposing to construct a turn-around for the FAA vehicles which use the access road to the MALSF approach lights. It has also requested permission to go forward with projects #3) the Reconstruction of the Easterly End of the Parallel TW and #4) the Reconstruction of the Terminal Apron, which will be constructed within their existing footprints. The terminal apron and easterly end of the parallel TW's pavement is over twenty years old and funding may be programmed prior to the completion of the FEIR. I am allowing both of these Replacement Projects to be completed prior to the completion of the FEIR



Review of the DEIR/NPC

The DEIR provided a detailed project description with a summary/history of the project. It included existing and proposed site plans. The EIR described the existing (2004) and projected level of passengers and flights and airport operations (including general aviation) for the next twenty years (2024). It identified that Phase 1 included the reconstruction of the terminal apron and the easterly end of the parallel TW within their respective footprints.

The DEIR described each local, regional, state, and federal agency action required for the project. The DEIR discussed which of the projects within the CIP are safety improvement projects required by the FAA. However, more discussion is needed in the FEIR to determine which projects are solely to comply with required FAA regulations.

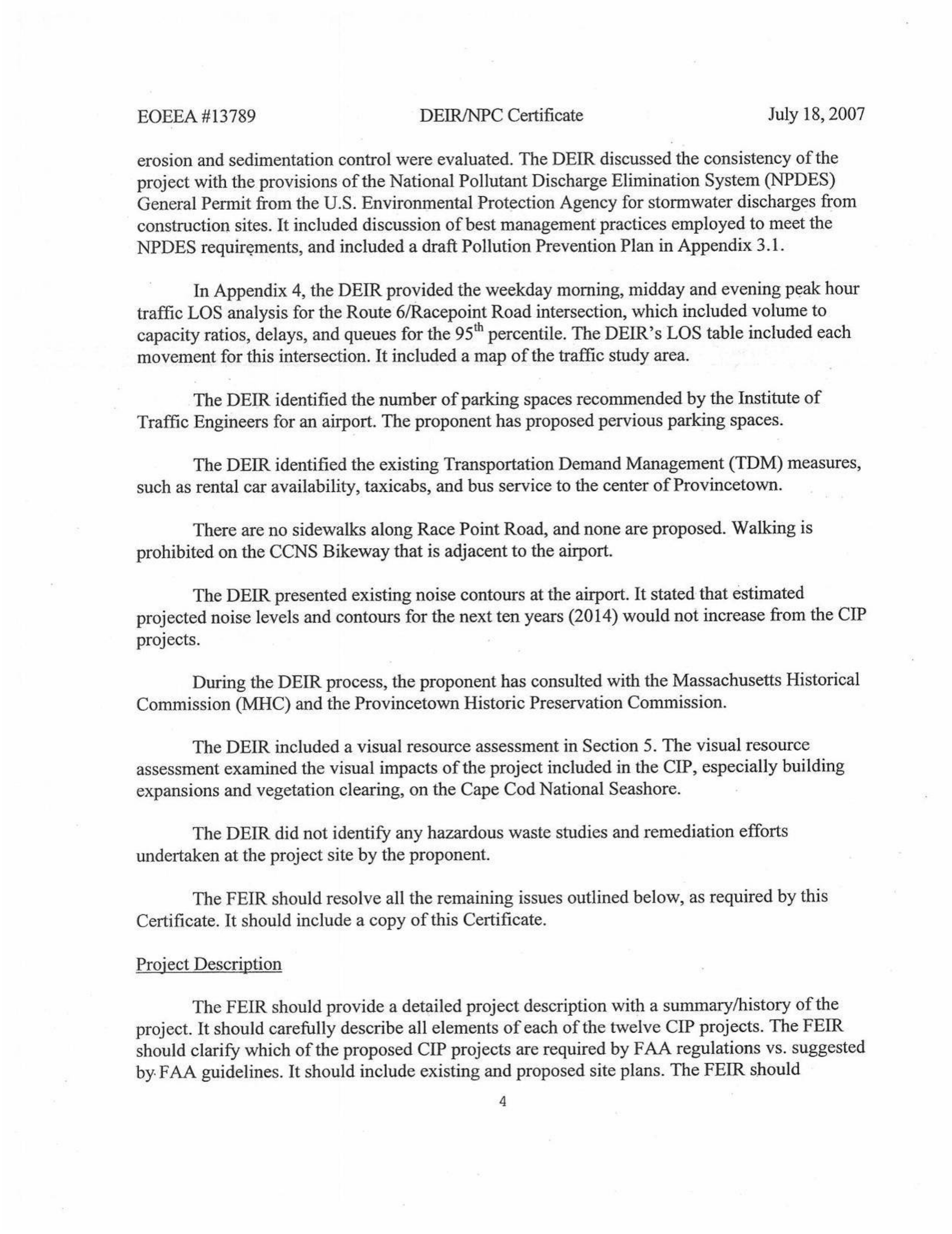
In addition to the Preferred Alternative, the No-Build Alternative, the DEIR summarized the alternatives for each of the CIP projects. The DEIR provided a comparative analysis that showed the differences between the environmental impacts associated with some of the CIP projects. The DEIR clarified some of the differences between FAA safety and design requirements and the recommendations for each project proposed within the CIP.

The proponent has identified that the project may impact the following wetland resource areas: 265,890 sf of permanent and 223,320 sf temporary impacts to Coastal Dune; 2,000 sf of permanent and 44,000 sf of temporary impacts to Bordering Vegetated Wetlands (BVW); and 64,215 sf of permanent and 53,360 sf of temporary impacts to Isolated Land Subject to Flooding (ILSF). Areas of isolated wetland and BVW along the fence alignment will be pruned to maintain an unobstructed area along the fence.

The DEIR addressed the significance of the wetland resources on the project site. There are no nearby public water supplies and wells. The DEIR identified the fencing proposed in tidal creek areas where tidal movements may encumber debris. The proponent has a plan to deal with the blockage of tidal flow material. Bordering vegetated wetlands that have been delineated in the field were surveyed, mapped, and located on the plans. The Provincetown Conservation Commission has accepted the resource area boundaries. The DEIR included a detailed wetlands replication plan for areas to be altered and the proposed wetland replication species, planned construction sequence, and a discussion of the required performance standards and monitoring.

The DEIR provided a summary of the proponent's site habitat assessment. The Natural Heritage Endangered Species Program (NHESP) required a habitat assessment for the Eastern Spadefoot Toad, the Vesper Sparrow, the Eastern Box Turtle, and the Broom Crowberry.

The DEIR evaluated potential drainage impacts on water resources from the project. It included a description of the existing runways' drainage system design in the construction area and identified any proposed changes. Proposed activities, including construction mitigation,



erosion and sedimentation control were evaluated. The DEIR discussed the consistency of the project with the provisions of the National Pollutant Discharge Elimination System (NPDES) General Permit from the U.S. Environmental Protection Agency for stormwater discharges from construction sites. It included discussion of best management practices employed to meet the NPDES requirements, and included a draft Pollution Prevention Plan in Appendix 3.1.

In Appendix 4, the DEIR provided the weekday morning, midday and evening peak hour traffic LOS analysis for the Route 6/Racepoint Road intersection, which included volume to capacity ratios, delays, and queues for the 95th percentile. The DEIR's LOS table included each movement for this intersection. It included a map of the traffic study area.

The DEIR identified the number of parking spaces recommended by the Institute of Traffic Engineers for an airport. The proponent has proposed pervious parking spaces.

The DEIR identified the existing Transportation Demand Management (TDM) measures, such as rental car availability, taxicabs, and bus service to the center of Provincetown.

There are no sidewalks along Race Point Road, and none are proposed. Walking is prohibited on the CCNS Bikeway that is adjacent to the airport.

The DEIR presented existing noise contours at the airport. It stated that estimated projected noise levels and contours for the next ten years (2014) would not increase from the CIP projects.

During the DEIR process, the proponent has consulted with the Massachusetts Historical Commission (MHC) and the Provincetown Historic Preservation Commission.

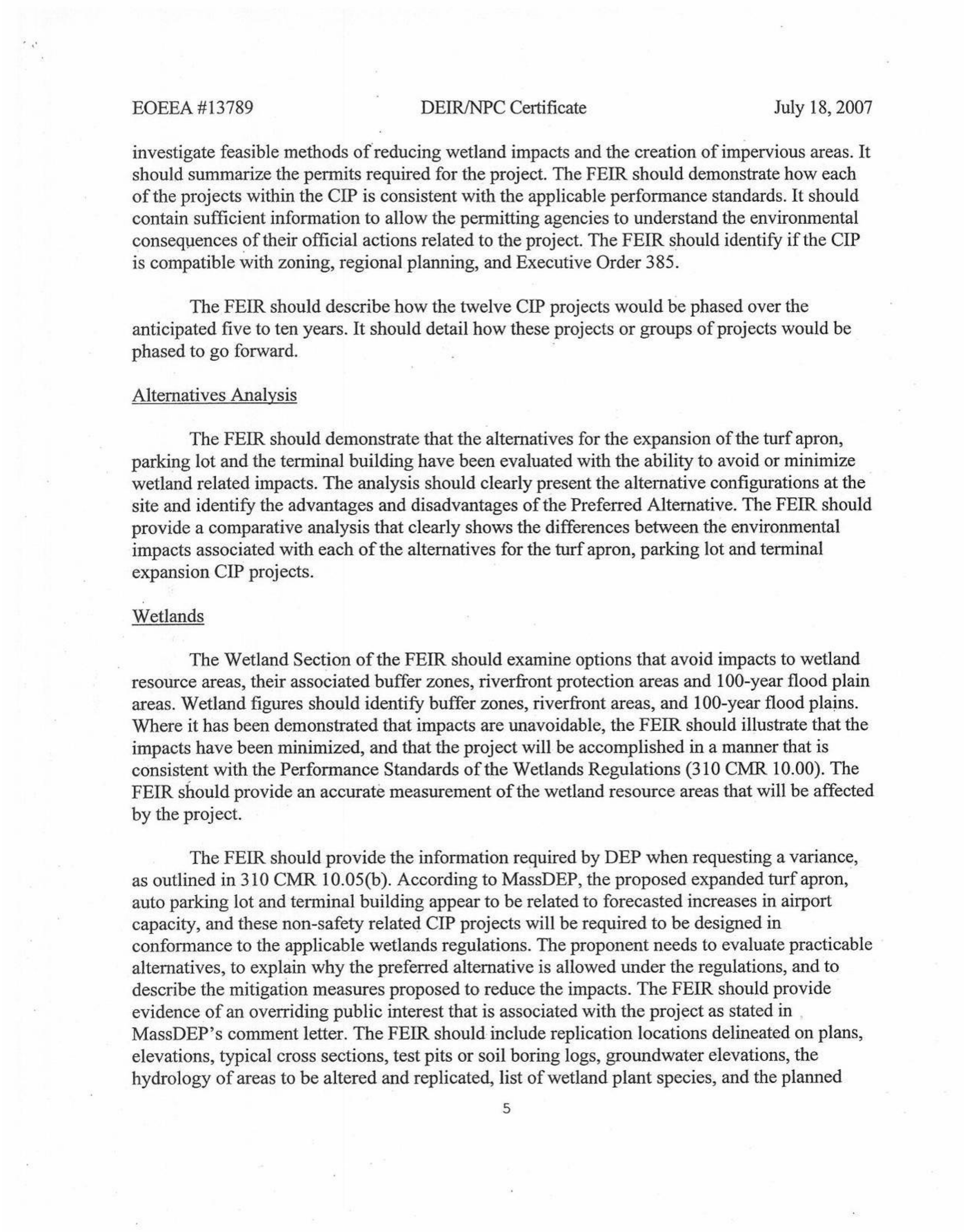
The DEIR included a visual resource assessment in Section 5. The visual resource assessment examined the visual impacts of the project included in the CIP, especially building expansions and vegetation clearing, on the Cape Cod National Seashore.

The DEIR did not identify any hazardous waste studies and remediation efforts undertaken at the project site by the proponent.

The FEIR should resolve all the remaining issues outlined below, as required by this Certificate. It should include a copy of this Certificate.

Project Description

The FEIR should provide a detailed project description with a summary/history of the project. It should carefully describe all elements of each of the twelve CIP projects. The FEIR should clarify which of the proposed CIP projects are required by FAA regulations vs. suggested by FAA guidelines. It should include existing and proposed site plans. The FEIR should



investigate feasible methods of reducing wetland impacts and the creation of impervious areas. It should summarize the permits required for the project. The FEIR should demonstrate how each of the projects within the CIP is consistent with the applicable performance standards. It should contain sufficient information to allow the permitting agencies to understand the environmental consequences of their official actions related to the project. The FEIR should identify if the CIP is compatible with zoning, regional planning, and Executive Order 385.

The FEIR should describe how the twelve CIP projects would be phased over the anticipated five to ten years. It should detail how these projects or groups of projects would be phased to go forward.

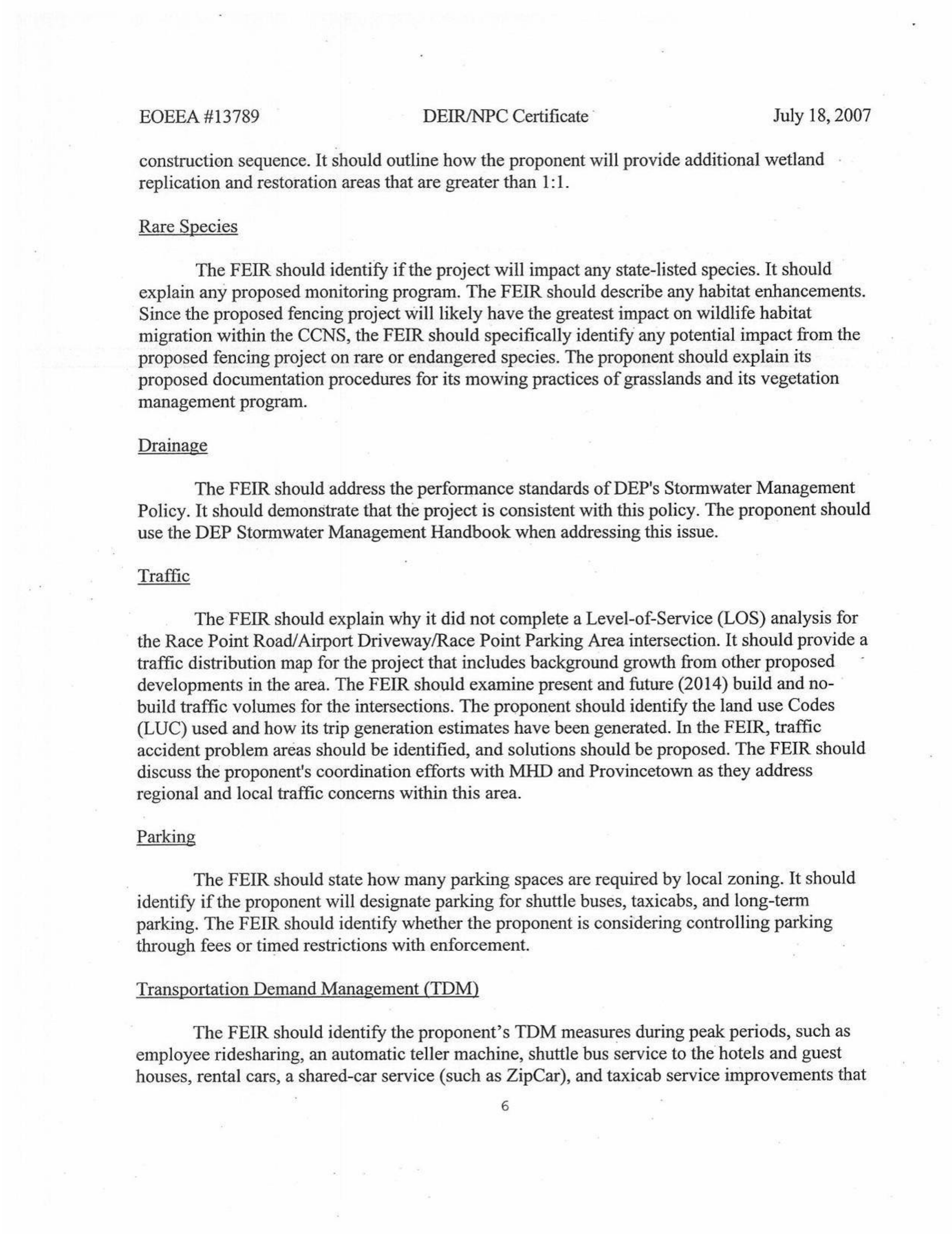
Alternatives Analysis

The FEIR should demonstrate that the alternatives for the expansion of the turf apron, parking lot and the terminal building have been evaluated with the ability to avoid or minimize wetland related impacts. The analysis should clearly present the alternative configurations at the site and identify the advantages and disadvantages of the Preferred Alternative. The FEIR should provide a comparative analysis that clearly shows the differences between the environmental impacts associated with each of the alternatives for the turf apron, parking lot and terminal expansion CIP projects.

Wetlands

The Wetland Section of the FEIR should examine options that avoid impacts to wetland resource areas, their associated buffer zones, riverfront protection areas and 100-year flood plain areas. Wetland figures should identify buffer zones, riverfront areas, and 100-year flood plains. Where it has been demonstrated that impacts are unavoidable, the FEIR should illustrate that the impacts have been minimized, and that the project will be accomplished in a manner that is consistent with the Performance Standards of the Wetlands Regulations (310 CMR 10.00). The FEIR should provide an accurate measurement of the wetland resource areas that will be affected by the project.

The FEIR should provide the information required by DEP when requesting a variance, as outlined in 310 CMR 10.05(b). According to MassDEP, the proposed expanded turf apron, auto parking lot and terminal building appear to be related to forecasted increases in airport capacity, and these non-safety related CIP projects will be required to be designed in conformance to the applicable wetlands regulations. The proponent needs to evaluate practicable alternatives, to explain why the preferred alternative is allowed under the regulations, and to describe the mitigation measures proposed to reduce the impacts. The FEIR should provide evidence of an overriding public interest that is associated with the project as stated in MassDEP's comment letter. The FEIR should include replication locations delineated on plans, elevations, typical cross sections, test pits or soil boring logs, groundwater elevations, the hydrology of areas to be altered and replicated, list of wetland plant species, and the planned



construction sequence. It should outline how the proponent will provide additional wetland replication and restoration areas that are greater than 1:1.

Rare Species

The FEIR should identify if the project will impact any state-listed species. It should explain any proposed monitoring program. The FEIR should describe any habitat enhancements. Since the proposed fencing project will likely have the greatest impact on wildlife habitat migration within the CCNS, the FEIR should specifically identify any potential impact from the proposed fencing project on rare or endangered species. The proponent should explain its proposed documentation procedures for its mowing practices of grasslands and its vegetation management program.

Drainage

The FEIR should address the performance standards of DEP's Stormwater Management Policy. It should demonstrate that the project is consistent with this policy. The proponent should use the DEP Stormwater Management Handbook when addressing this issue.

Traffic

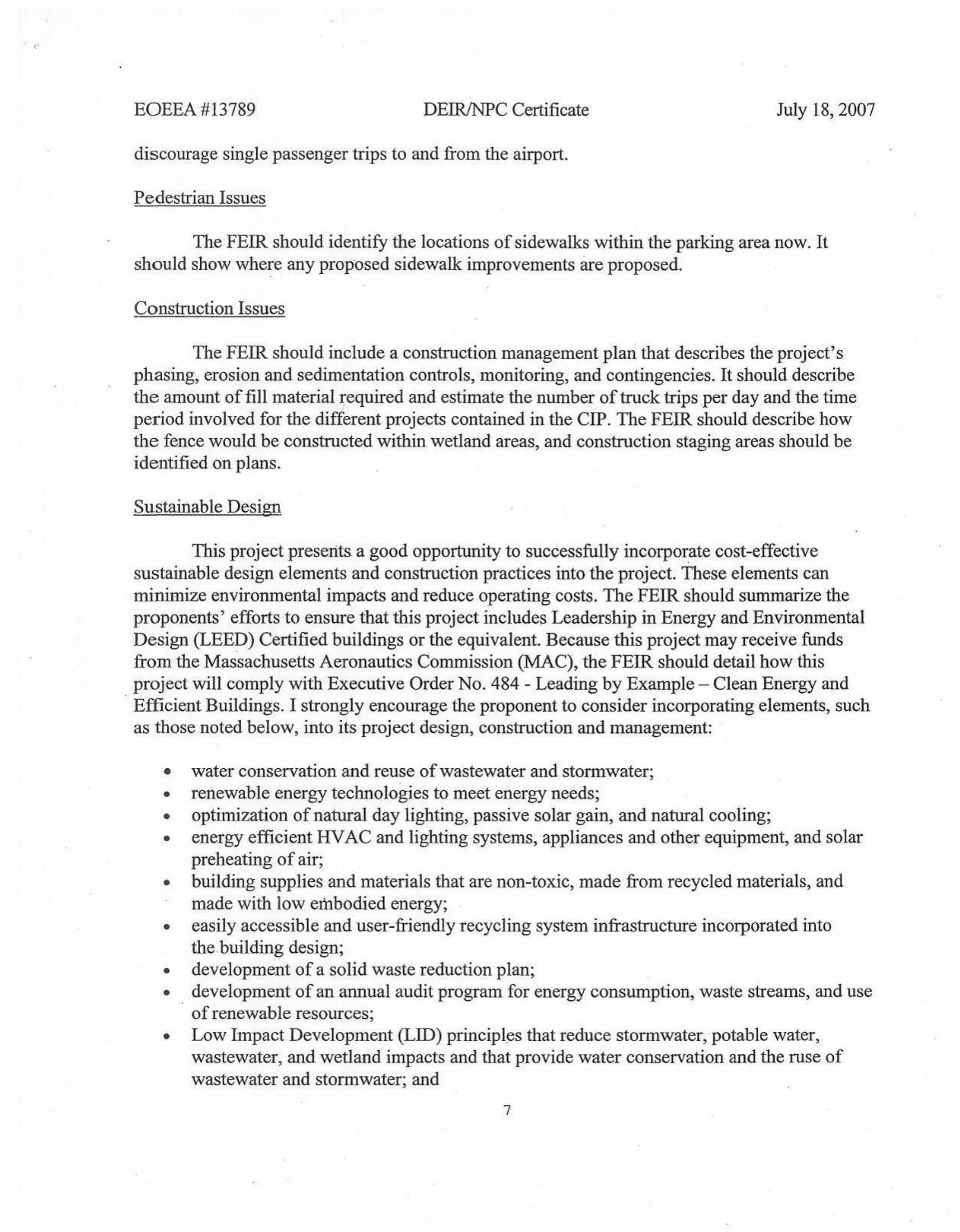
The FEIR should explain why it did not complete a Level-of-Service (LOS) analysis for the Race Point Road/Airport Driveway/Race Point Parking Area intersection. It should provide a traffic distribution map for the project that includes background growth from other proposed developments in the area. The FEIR should examine present and future (2014) build and no-build traffic volumes for the intersections. The proponent should identify the land use Codes (LUC) used and how its trip generation estimates have been generated. In the FEIR, traffic accident problem areas should be identified, and solutions should be proposed. The FEIR should discuss the proponent's coordination efforts with MHD and Provincetown as they address regional and local traffic concerns within this area.

Parking

The FEIR should state how many parking spaces are required by local zoning. It should identify if the proponent will designate parking for shuttle buses, taxicabs, and long-term parking. The FEIR should identify whether the proponent is considering controlling parking through fees or timed restrictions with enforcement.

Transportation Demand Management (TDM)

The FEIR should identify the proponent's TDM measures during peak periods, such as employee ridesharing, an automatic teller machine, shuttle bus service to the hotels and guest houses, rental cars, a shared-car service (such as ZipCar), and taxicab service improvements that



discourage single passenger trips to and from the airport.

Pedestrian Issues

The FEIR should identify the locations of sidewalks within the parking area now. It should show where any proposed sidewalk improvements are proposed.

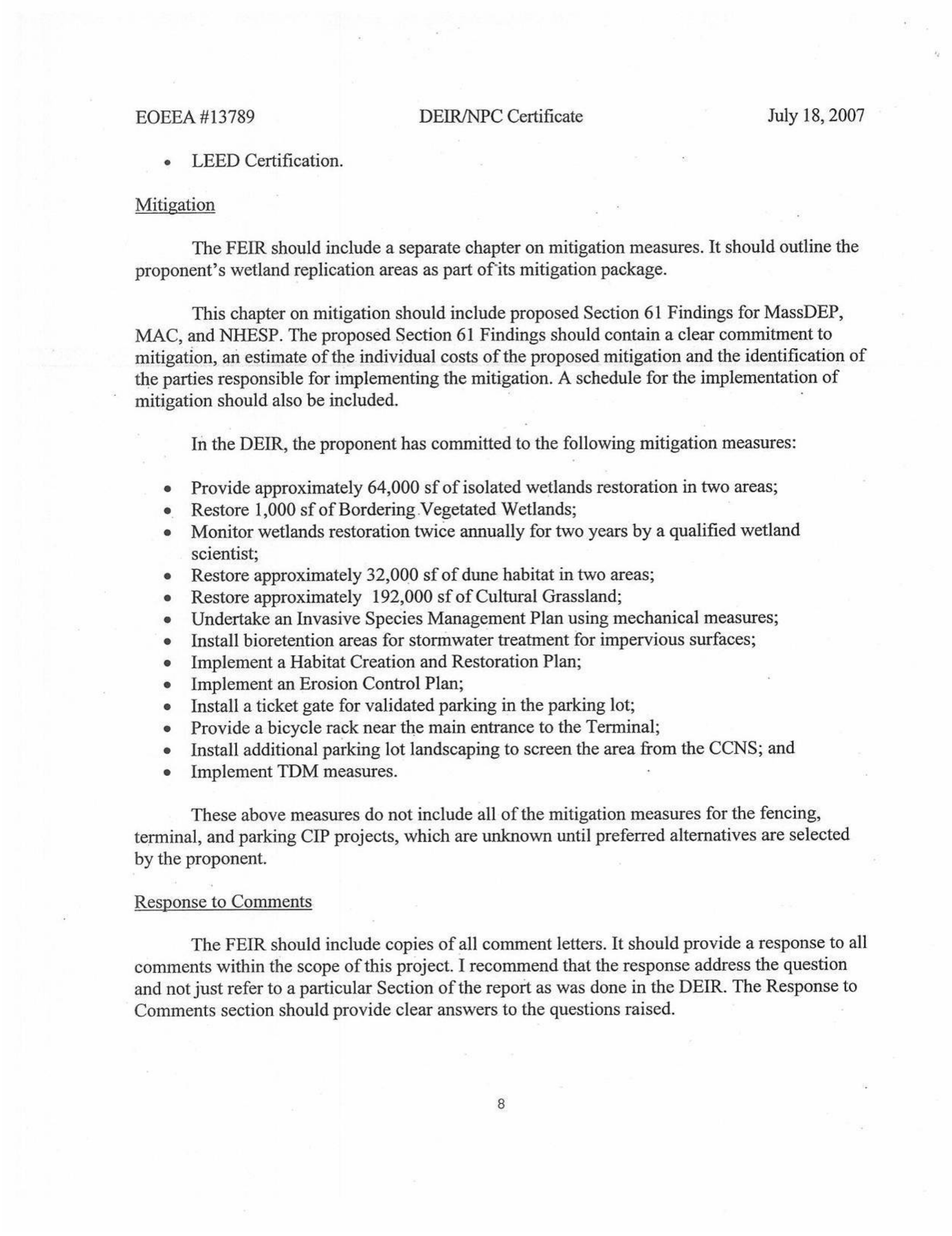
Construction Issues

The FEIR should include a construction management plan that describes the project's phasing, erosion and sedimentation controls, monitoring, and contingencies. It should describe the amount of fill material required and estimate the number of truck trips per day and the time period involved for the different projects contained in the CIP. The FEIR should describe how the fence would be constructed within wetland areas, and construction staging areas should be identified on plans.

Sustainable Design

This project presents a good opportunity to successfully incorporate cost-effective sustainable design elements and construction practices into the project. These elements can minimize environmental impacts and reduce operating costs. The FEIR should summarize the proponents' efforts to ensure that this project includes Leadership in Energy and Environmental Design (LEED) Certified buildings or the equivalent. Because this project may receive funds from the Massachusetts Aeronautics Commission (MAC), the FEIR should detail how this project will comply with Executive Order No. 484 - Leading by Example – Clean Energy and Efficient Buildings. I strongly encourage the proponent to consider incorporating elements, such as those noted below, into its project design, construction and management:

- water conservation and reuse of wastewater and stormwater;
- renewable energy technologies to meet energy needs;
- optimization of natural day lighting, passive solar gain, and natural cooling;
- energy efficient HVAC and lighting systems, appliances and other equipment, and solar preheating of air;
- building supplies and materials that are non-toxic, made from recycled materials, and made with low embodied energy;
- easily accessible and user-friendly recycling system infrastructure incorporated into the building design;
- development of a solid waste reduction plan;
- development of an annual audit program for energy consumption, waste streams, and use of renewable resources;
- Low Impact Development (LID) principles that reduce stormwater, potable water, wastewater, and wetland impacts and that provide water conservation and the ruse of wastewater and stormwater; and



- LEED Certification.

Mitigation

The FEIR should include a separate chapter on mitigation measures. It should outline the proponent's wetland replication areas as part of its mitigation package.

This chapter on mitigation should include proposed Section 61 Findings for MassDEP, MAC, and NHESP. The proposed Section 61 Findings should contain a clear commitment to mitigation, an estimate of the individual costs of the proposed mitigation and the identification of the parties responsible for implementing the mitigation. A schedule for the implementation of mitigation should also be included.

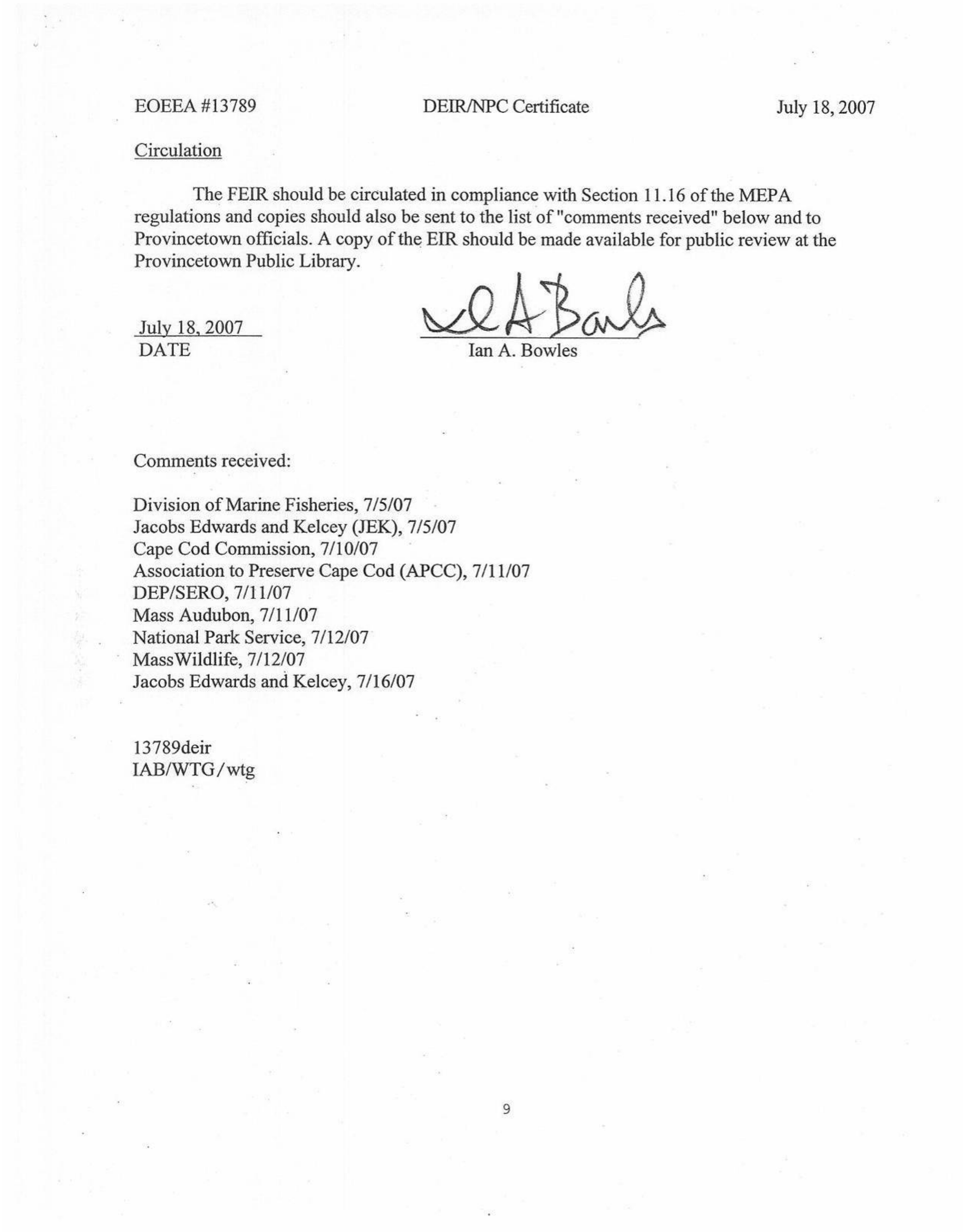
In the DEIR, the proponent has committed to the following mitigation measures:

- Provide approximately 64,000 sf of isolated wetlands restoration in two areas;
- Restore 1,000 sf of Bordering Vegetated Wetlands;
- Monitor wetlands restoration twice annually for two years by a qualified wetland scientist;
- Restore approximately 32,000 sf of dune habitat in two areas;
- Restore approximately 192,000 sf of Cultural Grassland;
- Undertake an Invasive Species Management Plan using mechanical measures;
- Install bioretention areas for stormwater treatment for impervious surfaces;
- Implement a Habitat Creation and Restoration Plan;
- Implement an Erosion Control Plan;
- Install a ticket gate for validated parking in the parking lot;
- Provide a bicycle rack near the main entrance to the Terminal;
- Install additional parking lot landscaping to screen the area from the CCNS; and
- Implement TDM measures.

These above measures do not include all of the mitigation measures for the fencing, terminal, and parking CIP projects, which are unknown until preferred alternatives are selected by the proponent.

Response to Comments

The FEIR should include copies of all comment letters. It should provide a response to all comments within the scope of this project. I recommend that the response address the question and not just refer to a particular Section of the report as was done in the DEIR. The Response to Comments section should provide clear answers to the questions raised.



EOEEA #13789 DEIR/NPC Certificate July 18, 2007

Circulation

The FEIR should be circulated in compliance with Section 11.16 of the MEPA regulations and copies should also be sent to the list of "comments received" below and to Provincetown officials. A copy of the EIR should be made available for public review at the Provincetown Public Library.

July 18, 2007
DATE

Ian A. Bowles

Comments received:

Division of Marine Fisheries, 7/5/07
Jacobs Edwards and Kelcey (JEK), 7/5/07
Cape Cod Commission, 7/10/07
Association to Preserve Cape Cod (APCC), 7/11/07
DEP/SERO, 7/11/07
Mass Audubon, 7/11/07
National Park Service, 7/12/07
MassWildlife, 7/12/07
Jacobs Edwards and Kelcey, 7/16/07

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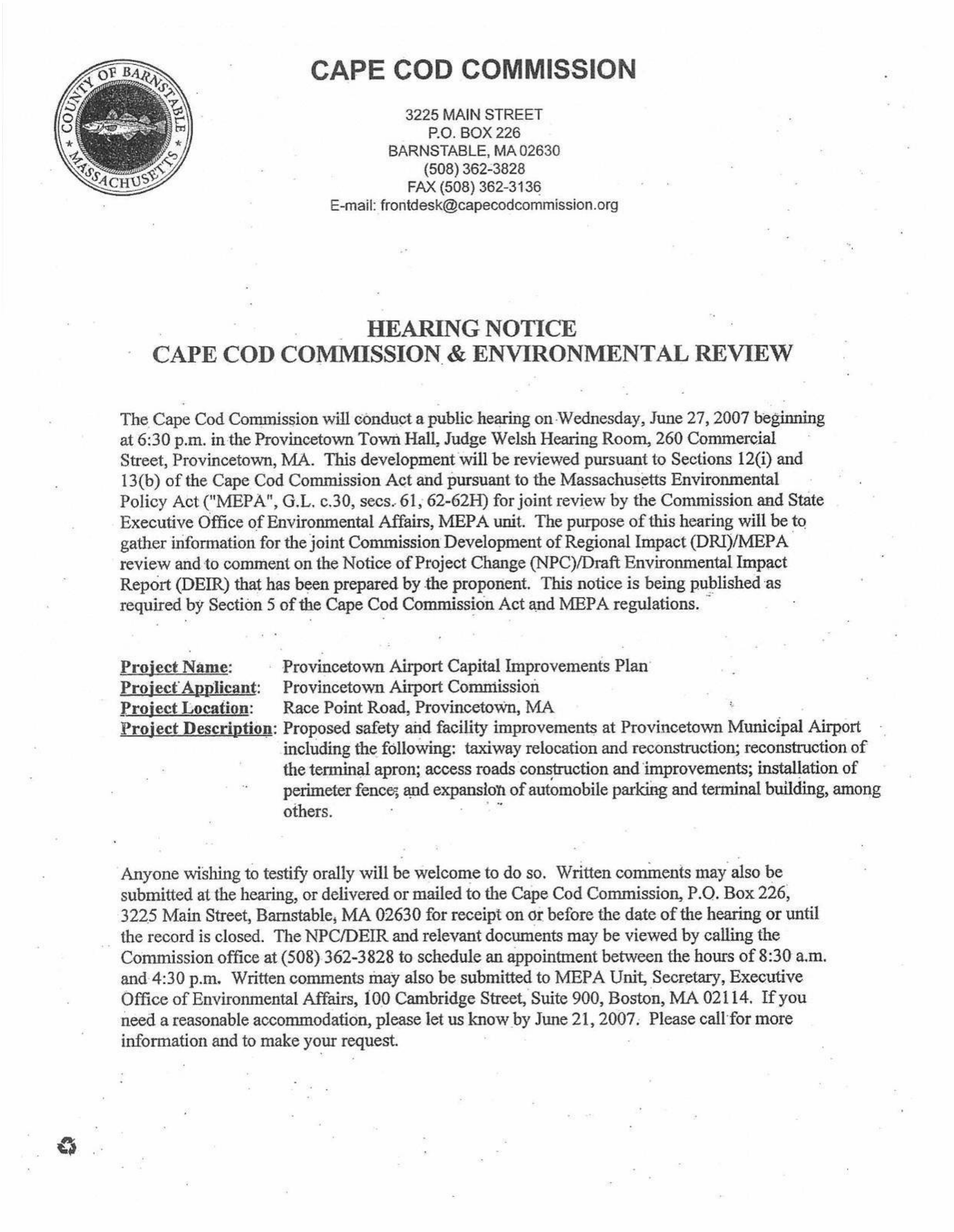

CAPE COD COMMISSION

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P.O. BOX 226
BARNSTABLE, MA 02630
(508) 362-3828
FAX (508) 362-3136
E-mail: frontdesk@capecodcommission.org

HEARING NOTICE
CAPE COD COMMISSION & ENVIRONMENTAL REVIEW

The Cape Cod Commission will conduct a public hearing on Wednesday, June 27, 2007 beginning at 6:30 p.m. in the Provincetown Town Hall, Judge Welsh Hearing Room, 260 Commercial Street, Provincetown, MA. This development will be reviewed pursuant to Sections 12(i) and 13(b) of the Cape Cod Commission Act and pursuant to the Massachusetts Environmental Policy Act ("MEPA", G.L. c.30, secs. 61, 62-62H) for joint review by the Commission and State Executive Office of Environmental Affairs, MEPA unit. The purpose of this hearing will be to gather information for the joint Commission Development of Regional Impact (DRI)/MEPA review and to comment on the Notice of Project Change (NPC)/Draft Environmental Impact Report (DEIR) that has been prepared by the proponent. This notice is being published as required by Section 5 of the Cape Cod Commission Act and MEPA regulations.

Project Name:	Provincetown Airport Capital Improvements Plan
Project Applicant:	Provincetown Airport Commission
Project Location:	Race Point Road, Provincetown, MA
Project Description:	Proposed safety and facility improvements at Provincetown Municipal Airport including the following: taxiway relocation and reconstruction; reconstruction of the terminal apron; access roads construction and improvements; installation of perimeter fence; and expansion of automobile parking and terminal building, among others.

Anyone wishing to testify orally will be welcome to do so. Written comments may also be submitted at the hearing, or delivered or mailed to the Cape Cod Commission, P.O. Box 226, 3225 Main Street, Barnstable, MA 02630 for receipt on or before the date of the hearing or until the record is closed. The NPC/DEIR and relevant documents may be viewed by calling the Commission office at (508) 362-3828 to schedule an appointment between the hours of 8:30 a.m. and 4:30 p.m. Written comments may also be submitted to MEPA Unit, Secretary, Executive Office of Environmental Affairs, 100 Cambridge Street, Suite 900, Boston, MA 02114. If you need a reasonable accommodation, please let us know by June 21, 2007. Please call for more information and to make your request.

SECTION 1.0 OVERVIEW

Section 1.1 includes the following: Introduction, Organization of the Document, Wetland Impact Methodology, Proposed Federal Aviation Administration (FAA) Actions, Proposed National Park Service (NPS) Actions, and Background on the previous NEPA document prepared for the Airport.

1.1 Introduction

The Provincetown Municipal Airport Commission proposes a Capital Improvements Plan (CIP) of safety and facility improvements at the Provincetown Municipal Airport (Airport or PVC). Implementation of the CIP will fulfill the mission of the Airport to operate a safe, secure, and reliable non-hub primary service airport receiving scheduled airline passenger service. As shown on Figure 1.1, the Airport is located within the Cape Cod National Seashore (CCNS), on Outer Cape Cod, Massachusetts. The projects are listed in Section 1.3, shown in Figure 1.2, and described in more detail in Sections 3, 5, and 6.

This Final Environmental Impact Report/Environmental Assessment and Section 4(f) Evaluation (FEIR/EA) has been prepared in conformance with the Massachusetts Environmental Policy Act (MEPA) regulations and the July 18, 2007 Certificate of the Secretary of Energy and Environmental Affairs (No. 13789) on the Notice of Project Change/Draft Environmental Impact Report/Environmental Assessment (NPC/Draft EIR/EA).

This document has also been prepared in conformance with the FAA guidelines for compliance with the National Environmental Policy Act (NEPA), FAA Orders 5050.4B and 1050.1E. It is a draft document until it is signed by an FAA official. A Section 4(f) Evaluation has been prepared and is part of this document. The 4(f) Evaluation can be found in Section 9.4.

This document has also been prepared to be consistent with the NPS NEPA guidelines and requirements, found in the NPS Director's Order -12 (DO-12).

The Final EIR/EA/Section 4(F) has been submitted to the Cape Cod Commission (CCC) as a supplement to the Development of Regional Impact (DRI) application. Appendix 8 provides an outline of the DRI submission.

Organization of This Document

The document has been modified since the NPC/Draft EIR/EA. The changes in the organization of the document have been made in order for the FEIR/EA/Section 4(f) to satisfy the Cape Cod National Seashore's (CCNS) NEPA format. The document still meets FAA NEPA and MEPA obligations and standards. The changes are explained below:

Section 1, Introduction, has been revised. The description of the Airport facilities has been moved to Section 4 which describes the existing environment. Impact categories that have been dismissed from further review are identified in Section 1.4.

Section 2, Purpose and Need, has been expanded.

Section 3, Proposed Action and Alternatives Analysis (formerly Proposed Improvements in NPC/DEIR/EA), contains the alternatives analysis that was in Section 4 of the NPC/Draft EIR/EA. It identifies all the alternatives that have been considered for each element of the CIP. Impacts associated with alternatives that have been considered but dismissed are discussed in this section. Additional discussion of the impacts associated with the Proposed Project (Preferred Alternative), other alternatives, and the No Action can be found in Section 5.

Section 4, Affected Environment (formerly Section 5 in the NPC/DEIR/EA), describes the existing environment.

Section 5, Environmental Consequences (formerly Section 6 in the DEIR), describes the impacts of the Preferred Alternative, other alternatives considered, and the No Action (No Build) for each of the project elements of the CIP.

Section 6, Project Description (formerly Section 3 in DEIR/EA), provides a detailed description and plans of the proposed projects (Preferred Alternatives).

Section 7, Mitigation Plans, has been expanded.

Section 8, Statutory and Regulatory Standards and Requirements, has been expanded.

Section 9, Findings (formerly Section 61 Findings), has been expanded to include additional Section 61 Findings, the Section 4(f) Evaluation, and Statements of Findings (SOF) for wetlands and floodplains, and the CZM Consistency Certification.

Section 10, Agency Coordination and Public Participation, has been updated.

Section 11, Distribution List, has been revised to include NPS distribution requests.

Section 12, List of Preparers, has been updated.

Section 13, MEPA Documents and Comments, has been updated and includes comment letters from NPS

Resource Area Impact Assessment Methodology For the Safety/Security Fence

Direct and Indirect Impacts: For the purposes of assessing the potential impacts associated with the safety/security fence, impacts to wetland resource areas (freshwater wetlands and coastal dunes) have been identified as falling into one of two general categories: direct or indirect. These categories are based upon discussions with MA DEP and other regulatory agencies specific to characterizing impacts associated with the installation and maintenance of the safety/security fence.

The term *Direct Impact* is used in this document to identify alterations which would involve permanent fill (e.g., from fence posts), and vegetation management that would significantly alter the plant community within the clear areas along the fence. Vegetation management where the wetland plant community would be appreciably altered from an existing forested community (PFO) or a dense shrub community (PSS) to one that is permanently maintained as a low-growing plant community has been included as a direct impact.

Indirect impacts, while modifying the vegetation communities, would not significantly alter the wetlands or dunes and would not impair the ability of these resource areas to continue to provide the same or similar functions and values as those provided by these areas prior to disturbance. An example of indirect impacts may be reducing the height of shrubby vegetation, but still maintaining a shrub swamp community.

Areas of minimal, if any, vegetation cutting and maintenance would not be considered an impact. For example, when the fence alignment would traverse existing low-growing plant communities, this area would not be included as an impact. In addition, vegetation management practices that would necessitate the cutting of *Phragmites* within the wetland along the fence alignment would not be considered an impact. *Phragmites* is currently cut by the Airport in the ILS area and the plant is also cut by other agencies for mosquito control or drainage.

Data have been collected along the preferred fence alignment (Concept 6) to qualify and quantify impacts to freshwater wetlands within Wetland C/J/FK (BVW), Isolated Vegetated Wetlands (IVW) and coastal dunes.

Proposed FAA Action

The FAA New England Region is the sponsor for the proposed Airport improvements.

The FAA action that is the subject of this FEIR/EA/Section 4(f) is:

1. Approve and sign the EA which then becomes the Finding of No Significant Impact (FONSI) for FAA.
2. Provide financial assistance for the construction of the CIP projects and implementation of proposed mitigation measures.

Proposed NPS Action

The Airport is located on property owned by the United States, managed by the NPS CCNS, and permitted to the Airport. The Airport operates under a Special Use Permit (SUP). The NPS Superintendent and the Airport Commission have been working toward a Memorandum of Agreement for the purposes of coordinating airport operations. NPS, as the entity leasing the land used for airport operations, has stated that the Airport is required to obtain approval from CCNS before proceeding with the CIP projects. The NPS further states that their evaluation of a request for approval must comply with NEPA.

The NPS CCNS action that is the subject of this document is:

1. Issue a FONSI based on this FEIR/EA/Section 4(f) in consideration of public review and comment.
2. Continue to work towards a Memorandum of Agreement for the CIP projects.

Background

In October 1999, a FEIS/FEIR/Section 4(f) Statement was prepared for Proposed Airport Improvements Program, which included improvements to the runway safety areas, navigational system, terminal building and other facilities. These projects were implemented between 2001 and 2003. Extensive coordination between the NPS and the FAA took place regarding preconditions to any proposed expansion of the runway. The Agreement established a future process that would need to be followed to analyze the potential for impacts of a runway expansion. The full text of that agreement (Attachment 1), the FAA ROD (November 16, 2000), the NPS ROD (November 28, 2001), and the letter from NPS to FAA (February 21, 2001) are provided in Appendix 5.

No runway extension was approved at that time and no runway extension is proposed at this time.

1.2 Changes Since the Filing of the NPC/DEIR/EA

Footprint Pavement Reconstruction

The July 18, 2007 Certificate issued on the NPC/DEIR/EA by the Secretary of Energy and Environmental Affairs allowed the Airport to proceed with the reconstruction of the Terminal Apron and the easterly end of the parallel taxiway within the same footprint, prior to the completion of the Final EIR/EA.

The Terminal Apron reconstruction project was issued an Order of Conditions (DEP File No. 058-0440) by the Provincetown Conservation Commission (PCC) and coordination was also carried out with the Natural Heritage and Endangered Species Program (NHESP) and NPS. However, to avoid segmentation, this project is included in the alternatives analysis and the evaluation of impacts. Construction was completed in the fall of 2008, after the summer peak season.

Although the reconstruction of the easterly end of the parallel taxiway has also been allowed by the Secretary to go forward ahead of the completion of the MEPA process, the project will likely be completed as part of the westerly taxiway system improvements. As requested by NHESP, these two projects will be included in the submission for MESA review to avoid segmentation.

Alternatives

In response to DEP comments on the NPC/Draft EIR/EA, the alternatives analysis has been expanded and additional alternatives have been developed for the turf apron and auto parking lot that avoid impacts to wetlands. The turf apron will be smaller in order to avoid wetland impacts. The auto parking layout has been revised to avoid wetland impacts and will be constructed in 2 phases. The Airport Commission would go forward with Phase 1 at this time. Construction of Phase 2 would be contingent upon additional parking studies that would be reviewed and approved by NPS and CCC.

Also, a new alternative for the safety/security fence has been developed that avoids impacts to Hatches Harbor and minimizes impacts to state listed species and their habitats. In response to the Secretary’s Certificate on the NPC/DEIR/EA and subsequent discussions with NHESP and NPS staff, additional assessments and evaluations have been completed in order to develop a fence alignment that would be in compliance with FAA protected airport surfaces and meet environmental permit performance standards to minimize adverse impacts to wetlands, coastal dunes, rare species habitat, and general wildlife habitat. An additional fence alternative alignment (Concept 6) has been developed and is the Preferred Alternative.

Renaming of the Taxiway System

The Airport has renamed the TWs to be consistent with nomenclature used at other airports. The changes are as follows:

Parallel TW changed to:	TW A
East End TW changed to:	TW B
Mid Connector TW changed to:	TW C
West End TW changed to:	TW D

However, this document retains the former names to be consistent with the NPC/Draft EIR/EA and to avoid confusion.

1.3 Improvement Projects Considered By This FEIR/EA

This document considers 12 Airport improvements projects that are proposed for the Airport's Capital Improvements Program (CIP). The projects are listed below and identified on Figure 1.2 at the end of Section 1. Additional descriptions of the projects are provided in Sections 3, 5, 6 and 7. These projects are being considered in a single FEIR/EA to facilitate an integrated assessment of effects to the environment.

Proposed CIP Projects

1. Westerly Taxiway System Improvements (Realign West End, Mid Connector and a portion of the Parallel TWs)
2. Relocate East End TW
3. Reconstruct Terminal Apron
4. Reconstruct Easterly End of Partial Parallel TW
5. Install TW Lighting and Construct Electric Vault
6. Repair Sightseeing Shack
7. Improve Access Road to Approach Lights (MALSF)
8. Construct Service Access Roads to AWOS and LES
9. Install Perimeter Fence
10. Expand Auto Parking
11. Expand Terminal Building
12. Expand Turf Apron

1.4 Project Issues and Impact Analysis

FAA Orders 5050.4B and 1050.1E, and NPS Director's Order -12 (DO-12) were reviewed to identify environmental categories. Some categories are not present at the Airport or are not likely to have impacts associated with planned improvements as discussed below.

A summary list of all of the categories is provided in Table 1-1.

Table 1-1 List of Environmental Categories Evaluated

Impact Categories adapted from FAA 1050.1E	**Determination**
Air Quality	No Impacts. Dismissed from Further Analysis.
Coastal Resources (Coastal Dunes)	Addressed in FEIR/EA.
Compatible Land Use	No Impacts. Dismissed from Further Analysis.
Construction Impacts	Addressed in FEIR/EA under various Resource Areas.
Department of Transportation Act: Section 4(f) Properties	Addressed in FEIR/EA.
Farmlands	Not Present. Dismissed from Further Analysis.
Cultural Grasslands	Addressed in FEIR/EA.
Rare Species Habitat (Rare and Endangered Species)	Addressed in FEIR/EA
Floodplain	Addressed in FEIR/EA
Hazardous Materials, Pollution Prevention, and Solid Waste	No Impacts. Dismissed from Further Analysis.
Cultural Resources (Archaeological and Historic)	No Impacts. Dismissed from Further Analysis.
Visual Environment	Addressed in FEIR/EA
Natural Resources and Energy Supply	No Impacts. Dismissed from Further Analysis.
Noise	No Impacts. Dismissed from Further Analysis.
Secondary (Induced) Impacts	No Impacts. Dismissed from Further Analysis.
Socioeconomic Impacts, Environmental Justice, and	No Impacts. Dismissed from Further Analysis.
Drainage / Stormwater Management (Water Quality)	Addressed in FEIR/EA
Wetlands and Wetland Buffer Zones	Addressed in FEIR/EA
Wild and Scenic Rivers	Not Present. Dismissed from Further Analysis.
Traffic	No Impacts to Traffic LOS. Dismissed from Further Analysis.
Transportation (Auto Parking/Aviation	Addressed in FEIR/EA
Park Operations	No Impacts. Dismissed from Further Analysis.
Impairment of Park Resources	Addressed in FEIR/EA per DO-12.
Cumulative Impacts	Addressed in FEIR/EA per DO-12.

Source: Adapted from FAA Order 1050.1E, Appendix A, NPS Director's Order – 12 (DO-12) and Consultant Evaluations.

Environmental Impact Categories Evaluated and Dismissed from Further Analysis

The No Action, Proposed Action (Preferred Alternative), and reasonable alternatives would not affect the following Environmental Impact Categories:

Air Quality

The Airport's current level of activity (approximately 100,000 annual GA operations and less than 12,000 annual passenger enplanements) is well below the federal threshold for an air quality assessment. The future projects will not cause Airport activity to exceed the 180,000 GA operations and the 1.3 million enplanements threshold that triggers an air quality analysis. Aircraft operations, aircraft fueling, and auto traffic have not been air quality issues at the Airport.

Air quality is not expected to be adversely impacted by any planned improvements included in the CIP and operations and enplanements will remain below the threshold for an air quality assessment. Additionally, auto traffic is not projected to increase significantly as a result of the CIP projects. Therefore, impacts are not expected and air quality is dismissed as an impact category for more detailed study.

Compatible Land Use

The proposed CIP projects would provide improvements to existing facilities and would not extend outside of the existing lease boundary for the Airport. There would be no change to adjacent land uses. There would be no change to the existing noise contours at the Airport. There will be a net decrease in pavement. There would be no community disruption, business relocations or induced socioeconomic impacts. Therefore, impacts are not expected and Compatible Land Use is dismissed as an impact category for more detailed study.

Farmlands

None of the CIP projects would affect agricultural lands or prime or unique farmlands soils as defined by the Natural Resource Conservation Service. Therefore, impacts are not expected and Farmlands is dismissed as an impact category for more detailed study.

Hazardous Materials, Pollution Prevention, and Solid Waste

Oil or hazardous materials (OHM) are used and stored in several locations at the Airport. Aviation gas (Avgas) is the most commonly transferred and stored hazardous material at the Airport. During the replacement of the old underground storage fuel tank in 1991, contaminated soil was identified and DEP was notified. The soils were excavated and disposed of by a licensed contractor at a licensed disposal facility. A Waiver Completion Statement was submitted in 1999.

To minimize the risk associated with bulk storage and transfer of Avgas, the Airport has drafted a Spill Prevention Control and Countermeasure Plan (SPCCP) in accordance with Code of Federal Regulations 40, Subpart 112 (40 CFR 112). The SPCCP is provided in Appendix 3.

The SPCCP identifies bulk fuel storage and transfer locations at Airport facilities and provides information critical to the prevention of, and response to, releases of OHM. An Emergency Response Action Plan (ERAP) is attached to the SPCCP, and provides emergency personnel contact information, local, state, and federal emergency response agencies, as well as release reporting information. The SPCCP also establishes personnel training requirements, outlines general spill response procedures, and contains standard operation procedures for Airport operations involving the transfer of OHM.

Additionally, the Airport has prepared a Stormwater Pollution Prevention Plan (SWPPP) in accordance with National Pollutant Discharge Elimination System (NPDES) standards. SWPPP documents identify potential sources of stormwater pollution at Airport facilities, reflect current operating conditions, and plan for future development of the Airport's facilities. This document is also provided in Appendix 3.

The SWPPP identifies locations where OHM are stored and used, and also identifies drainage areas, stormwater conveyances, and stormwater discharge locations for Airport facilities. The Airport currently maintains a 10,000 gallon underground storage tank (UST) for the storage of Avgas, located approximately 120 feet west of the terminal. The Avgas UST is a double-walled tank with interstitial monitoring and cathodic protection from corrosion. The Airport also maintains a 500 gallon above ground storage tank (AST) for the storage of diesel fuel, located east of the Airport Hangar. The diesel fuel AST is equipped with a secondary containment concrete bunker, and supplies the main terminals emergency generator.

Cape Air, the fixed base operator (FBO) at the Airport, conducts and oversees all transfers of Avgas. Vendor deliveries, as well as transfer of Avgas to the Airport's 1,200 gallon mobile refueler, occur at the fuel farm transfer station. In the event of a release of OHM, the Airport maintains spill response equipment at both the fuel farm transfer station and Airport Operations building.

In addition to the transfer of Avgas and diesel fuel, the use of OHM at the Airport is limited to occasional light operator maintenance of Airport equipment, and periodic use of Type I ethylene glycol for deicing Cape Air aircraft. Deicing operations are conducted on the main apron pavement in a location that prevents deicing fluid from entering any stormwater catch basins. Hazardous waste is properly disposed of by a licensed hazardous waste contractor as needed. With the exception of light servicing of maintenance equipment, Airport operations do not include aircraft maintenance or vehicle servicing. The Airport does not use pesticides, insecticides, or herbicides in grounds keeping operations.

The planned improvements will not change the existing management of spills and hazardous materials at the Airport. Therefore, impacts are not expected, and the category of Hazardous Materials, Pollution Prevention, and Solid Waste is dismissed for more detailed study.

Please note that Stormwater Management is discussed under Drainage.

Cultural Resources

Information for this section was provided in part by NPS. Cultural resource impact categories considered are as follows:

Archaeological Resources: any material remains or physical evidence of past human life or activities which are of archaeological interest, including the record of the effects of human activities on the environment. They are capable of revealing scientific or humanistic information through archaeological research.

There are no known Archeological Resources at the Airport.

Cultural Landscape: a geographic area, including both cultural and natural resources and the wildlife or domestic animals therein, associated with a historic event, activity, person or exhibiting other cultural or aesthetic values.

It is anticipated that Cultural Landscapes will receive negligible long term impacts. The CIP projects will occur within the immediate Airport operational area and not within undisturbed areas of Cultural Landscapes. The preferred alternative for the safety/security fence is not expected to have impacts to the Cultural Landscape surrounding the Airport. Impacts to the adjacent Dune Shacks of the Peaked Hill Bars Historic District will be negligible, depending on the final height of new structures and their affect on viewshed from the district.

Structures: a constructed work, usually immovable by nature or design, consciously created to serve some human activity.

The MHC has determined that there will no impacts to historic structures with the Sightseeing Shack project. CCNS concurs with MHC that no historic structures are present in the immediate area of potential effect.

Museum Objects: a material thing possessing functional, aesthetic, cultural, symbolic, and/or scientific value, usually moveable by nature or design. Museum objects include prehistoric and historic objects, artifacts, works of art, archival material, and natural history specimens that are part of a museum collection.

There are no Museum Objects located in the vicinity of the proposed CIP projects. Therefore, impacts to Museum Objects may be dismissed as an impact topic.

Ethnographic Resources: a site, structure, object, landscape, or natural resource feature assigned traditional legendary, religious, subsistence, or other significance in the cultural system of a group traditionally associated with it.

There are no known Ethnographic Resources at the Airport.

Cultural resources on the Outer Cape include historic sites such as the Race Point Lighthouse, the Race Point Ranger Station (former Coast Guard Station), the Dune Shacks of Peaked Hill Bars Historic District, the Herring Cove Bathhouse of 1953, and the former U.S. life saving station (now the Old Harbor Museum). Archaeological sites include shipwrecks along the beach, prehistoric archaeological sites and remains of fisherman shacks near Herring Cove and Race Point.

Although Pre-Contact period sites have not been reported within the area of the Airport, there are Native American archeological sites of that period in the former Province Lands and Pilgrim Springs areas, near Pilgrim Lake in Truro, according to the NPS. The NPS has also indicated that while the shifting of sand toward and around the toe of Cape Cod was occurring in late prehistory, it is likely that hunting and fishing were carried on by native peoples around the wetlands formed in the new lands next to the highlands of the Cape.

Coordination has been carried out with the Massachusetts Historical Commission (MHC) regarding the historical significance of the Sightseeing Shack and other significant historic or archaeological resources within the Airport lease area. In their correspondence dated April 2, 2007, MHC determined that the CIP project is unlikely to affect significant historic or archaeological resources. The determination is included in Section 10.1. The CCNS park archaeologist has determined that no archaeological testing is necessary for the fence or taxiway lights projects.

Therefore impacts are not expected, and the category of Historical, Architectural, Archaeological, and Cultural Resources is dismissed for more detailed study.

Natural Resources and Energy Supply

The proposed CIP projects would not cause an increase in demand that would exceed available natural resource (such as timber, minerals) or energy supplies. FAA policy encourages the development of facilities that include principles of sustainability. The Terminal will be designed to be a “green” building to the extent feasible and will minimize demand for energy or other natural resources. There would be a minor temporary use of energy resources to power equipment and construction vehicles and to generate construction materials. Therefore, impacts are not expected and Natural Resources and Energy Supply is dismissed as an impact category for more detailed study.

Noise

Although there are no residential areas near the Airport, the CCNS is considered a noise sensitive area. The Province Lands Visitor Center, the Race Point Beach area, a bike trail, a hiking trail, and several summer cottages are east of the Airport under the approach to Runway 25. The Province Lands Visitor Center is approximately a half mile north of the Airport. The Race Point Beach area is approximately a half mile east of the Airport. The Race Point Beach parking lot is approximately a quarter mile from the Airport parking lot. A section of the bike trail is within the Airport lease area and crosses Airport Drive. At the closest point the bike path is approximately 650 feet from the end of Runway 25, where the Runway Safety Area nearly abuts the bike path, separated by a fence.

Aircraft noise is created by low flying aircraft operating in the traffic pattern for landing or departing the Airport. Commercial or private sightseeing planes which operate over the CCNS are regulated by specific federal airspace restrictions that specify a 2,000-foot minimum flight elevation over national parks.

In an effort to minimize the Airport’s noise impacts, a non-standard right hand traffic pattern was established for Runway 25 to keep planes over the water. This pattern keeps approaching and departing aircraft farther away from the amphitheater and Province Lands Visitor Center. Noise complaints have decreased since the change in the air traffic pattern.

An extensive noise analysis was done in 1996 and included in the 1999 Environmental Impact Statement/Report (EEA No. 9386) to assess the noise impacts of shifting the runway in order to construct the runway safety areas. The runway safety area project has been completed and the associated noise contours have been incorporated into a noise contour plan for the Airport. Since the noise study was completed for the runway safety area, there has been no change in the commercial fleet mix and none is anticipated for the next ten years. It is expected that the commercial commuter fleet mix will remain the same.

The noise contours for the existing Airport were provided in the NPC/DEIR/EA. The planned improvements will not increase operations and will not change the existing noise contours. The proposed addition of turf apron area will accommodate planes that are currently parked on the Mid Connector TW during peak periods and will not result in more flights into the Airport. Therefore, impacts are not expected and noise is dismissed as an impact category for more detailed study.

Secondary (Induced) Impacts

The proposed CIP projects will address existing needs at the Airport. Secondary impacts are not expected and therefore this category is dismissed for more detailed study.

Socioeconomic Impacts, Environmental Justice, and Children's Environmental Health and Safety Risks

The proposed CIP projects will not change local or regional land use and will not impact neighborhoods or businesses. The area is not mapped as an Environmental Justice Viewer on the MassGIS database. Therefore, impacts are not expected and Socioeconomic Impacts is dismissed as an impact category for more detailed study.

Wild and Scenic Rivers

The NPS and MassGIS database has been checked. There are no Wild and Scenic Rivers within the project area. Therefore, impacts are not expected and Wild and Scenic Rivers is dismissed as an impact category for more detailed study.

Traffic

The primary access for automobiles to the Airport is Race Point Road. Traffic on Race Point Road, leaving northbound from the intersection with Route 6 and Conwell Street, enters the CCNS, passes an intersection with Province Lands Road, and arrives at the Airport driveway approximately two miles from the intersection with Route 6. Race Point Road continues on to Race Point Beach, where the NPS maintains a five-bay, 340 car parking facility. From here, special off-road vehicles may continue on the beach or along specific restricted NPS roads which access the dune lands. Although vehicles may arrive at the Airport via Province Lands Road, traffic counts conducted by the CCC revealed traffic is very light on this road, and a vast majority of the traffic utilizes Race Point Road for Airport access. Readers unfamiliar with the roadway system can refer to figures included in Appendix 4. Race Point Road, Province Lands Road, and Conwell Street are all local two lane roads. The intersection of Race Point Road and Province Lands Road is under stop control. Route 6 is a major arterial with two travel lanes separated by a median. There are exclusive left turn lanes at the intersection with Conwell Street and Race Point Road.

In accordance with the MEPA certificate on the ENF, a level-of-service (LOS) analysis of the signalized intersection of Route 6 at Conwell Street and Race Point Road and the unsignalized intersection of Race Point Road and Airport Drive was conducted. The analysis was done by using the widely accepted software program Synchro v.6.0, which is based upon the concepts and procedures described in the Highway Capacity Manual (HCM).

Automatic Traffic Recorders (ATR) and Turning Movement Counts (TMCs) were used to collect current traffic data in August 2006 and August/September 2007, which is within the seasonal peak period of activity at the Airport. The ATRs were placed along Airport Drive, and at two locations on

Race Point Road. The ATRs collected average daily traffic volumes over an extended period of time and provide an hourly volume breakdown.

The TMCs were performed during the weekday morning, midday, evening and Saturday midday peak periods. The TMCs were conducted at the study area intersections of Route 6 at Race Point Road, and Race Point Road at Airport Drive. The level-of-service (LOS) analysis was conducted utilizing the TMCs.

Signalized Intersection of Route 6 at Conwell Street and Race Point Road
Under all conditions (2007 Existing, 2024 No Action and 2024 Build), this intersection currently operates at LOS A during the weekday morning peak hour and at LOS B during the weekday midday, evening and Saturday midday peak hours.

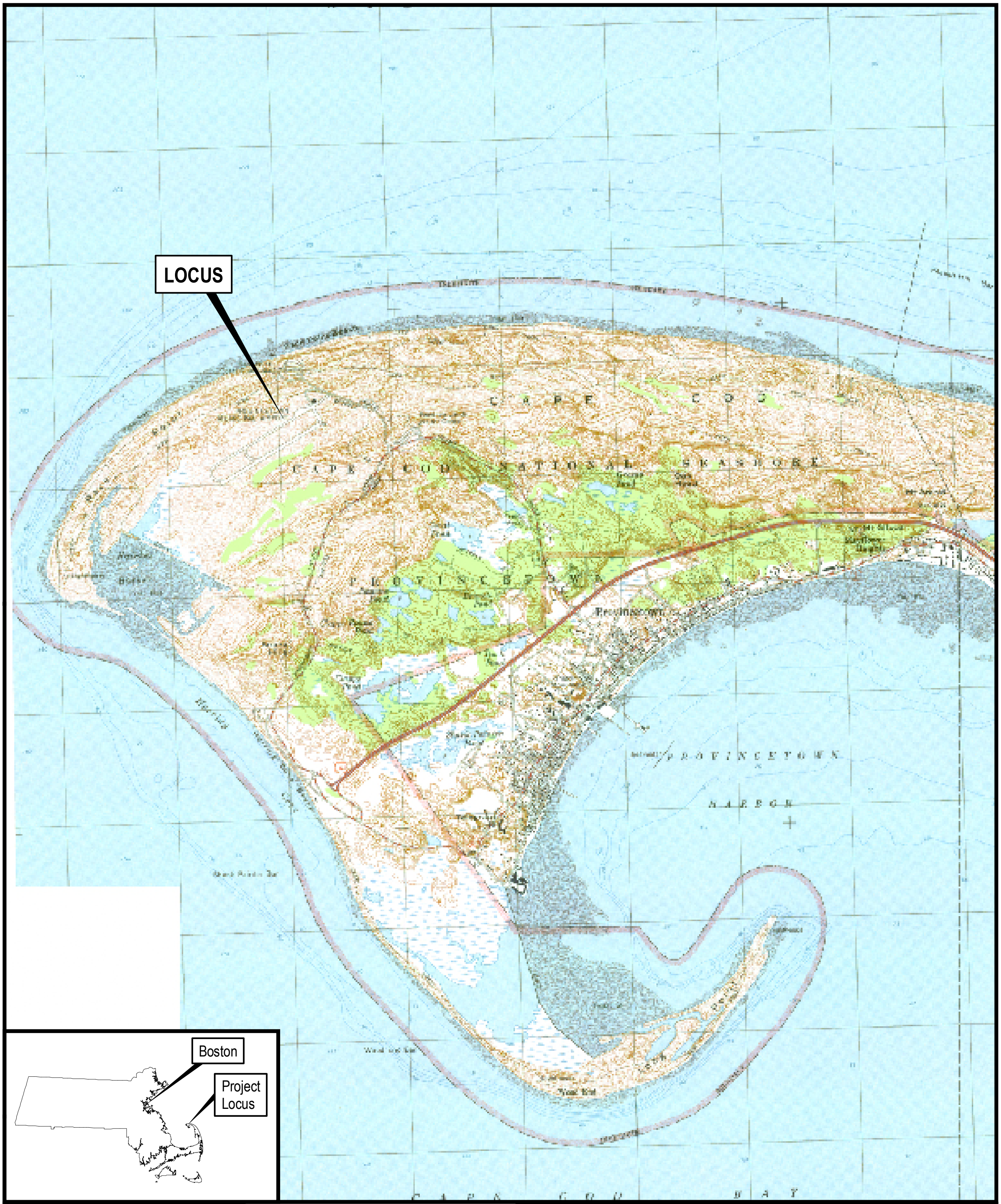
Unsignalized Intersection at Race Point Road and Airport Drive
Under all conditions, the critical movements (all movements from Airport Drive) at this unsignalized intersection operate at LOS A during the weekday morning, midday, and evening and Saturday midday peak hours.

Additional information is provided in the Traffic Operation Report and Parking Analysis provided in Appendix 4.

The CIP projects will not impact traffic operations. The Level of Service (LOS) will not be impacted by any of the alternatives. Therefore, impacts to traffic are not expected and Traffic is dismissed as an impact category for more detailed study. The impacts to auto parking capacity, pedestrian movement, and bicyclists are addressed in this document under Transportation.

Park Operations

Park Operations refers to the access to buildings and beaches and other daily activities and services provided by the Park. The CCNS maintains buildings, trails, roads, and parking lots. Implementation of the Project would not cause interruptions nor interfere with efficient park operations. Construction related traffic will not interfere with access to the visitor centers or beach parking lots. Therefore, impacts are not expected and Park Operations is dismissed as an impact category for more detailed study. However, Impairment to Park Resources is discussed in this document as required by NPS NEPA guidelines.



Prepared By:

JACOBS

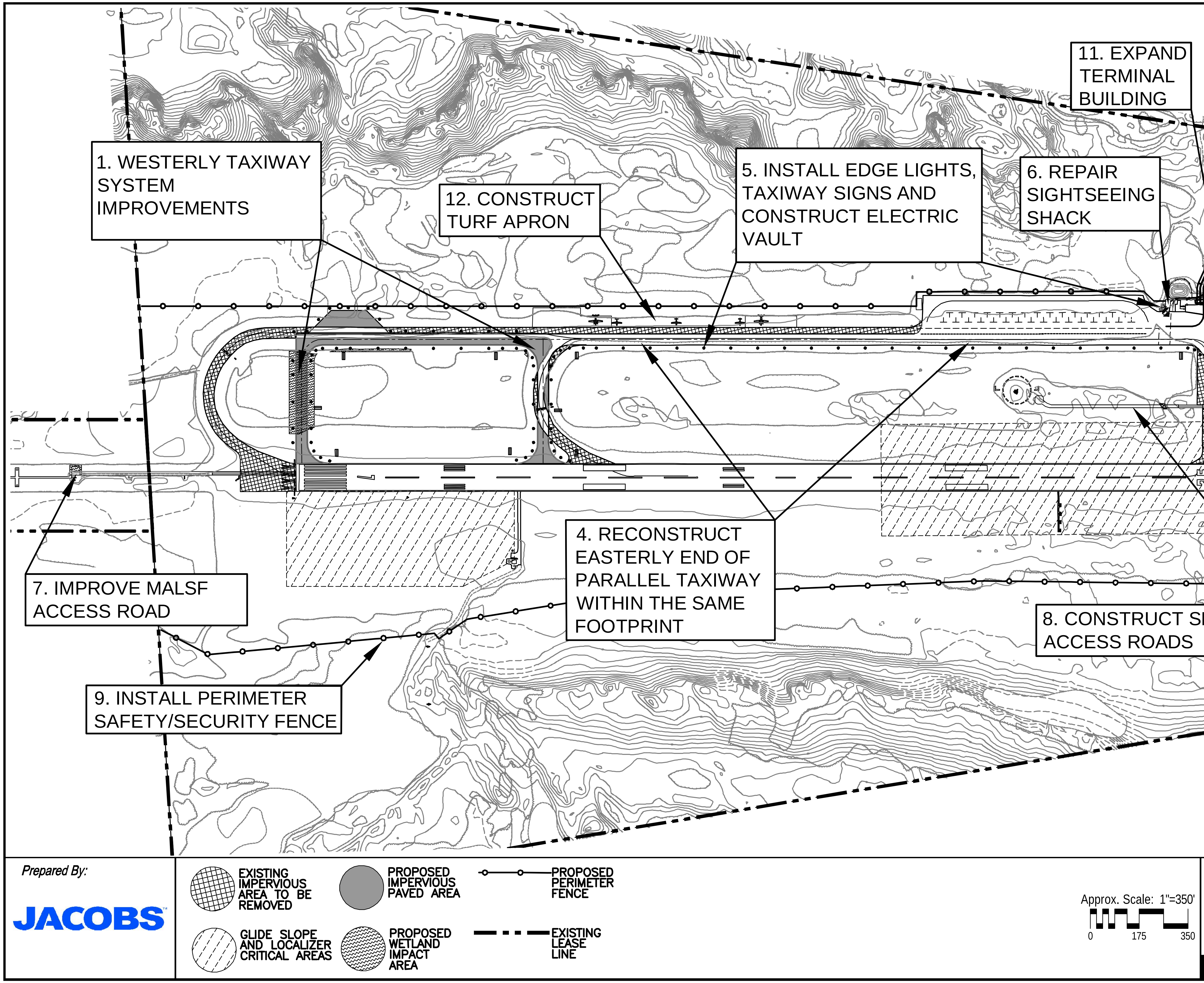
Approx. Scale in Feet
0 4,000

Data compiled from the following source:
MassGIS, Commonwealth of Mass. EOEA

Provincetown Municipal Airport
Capital Improvements Plan

LOCUS MAP

Figure 1.1


11. EXPAND TERMINAL BUILDING
10. EXPAND AUTO PARKING
3. RECONSTRUCT TERMINAL APRON WITHIN THE SAME FOOTPRINT
1. WESTERLY TAXIWAY SYSTEM IMPROVEMENTS
12. CONSTRUCT TURF APRON
5. INSTALL EDGE LIGHTS, TAXIWAY SIGNS AND CONSTRUCT ELECTRIC VAULT
6. REPAIR SIGHTSEEING SHACK
2. RELOCATE EAST END TAXIWAY
4. RECONSTRUCT EASTERLY END OF PARALLEL TAXIWAY WITHIN THE SAME FOOTPRINT
7. IMPROVE MALSF ACCESS ROAD
8. CONSTRUCT SERVICE ACCESS ROADS
9. INSTALL PERIMETER SAFETY/SECURITY FENCE
7
25
EXISTING IMPERVIOUS AREA TO BE REMOVED
PROPOSED IMPERVIOUS PAVED AREA
PROPOSED PERIMETER FENCE
GLIDE SLOPE AND LOCALIZER CRITICAL AREAS
PROPOSED WETLAND IMPACT AREA
EXISTING LEASE LINE
Approx. Scale: 1"=350'
0
175
350

Prepared By:

JACOBS

Provincetown Municipal Airport
Capital Improvements Plan

PROJECT OVERVIEW

Figure 1.2

SECTION 10.0 AGENCY COORDINATION AND PUBLIC PARTICIPATION

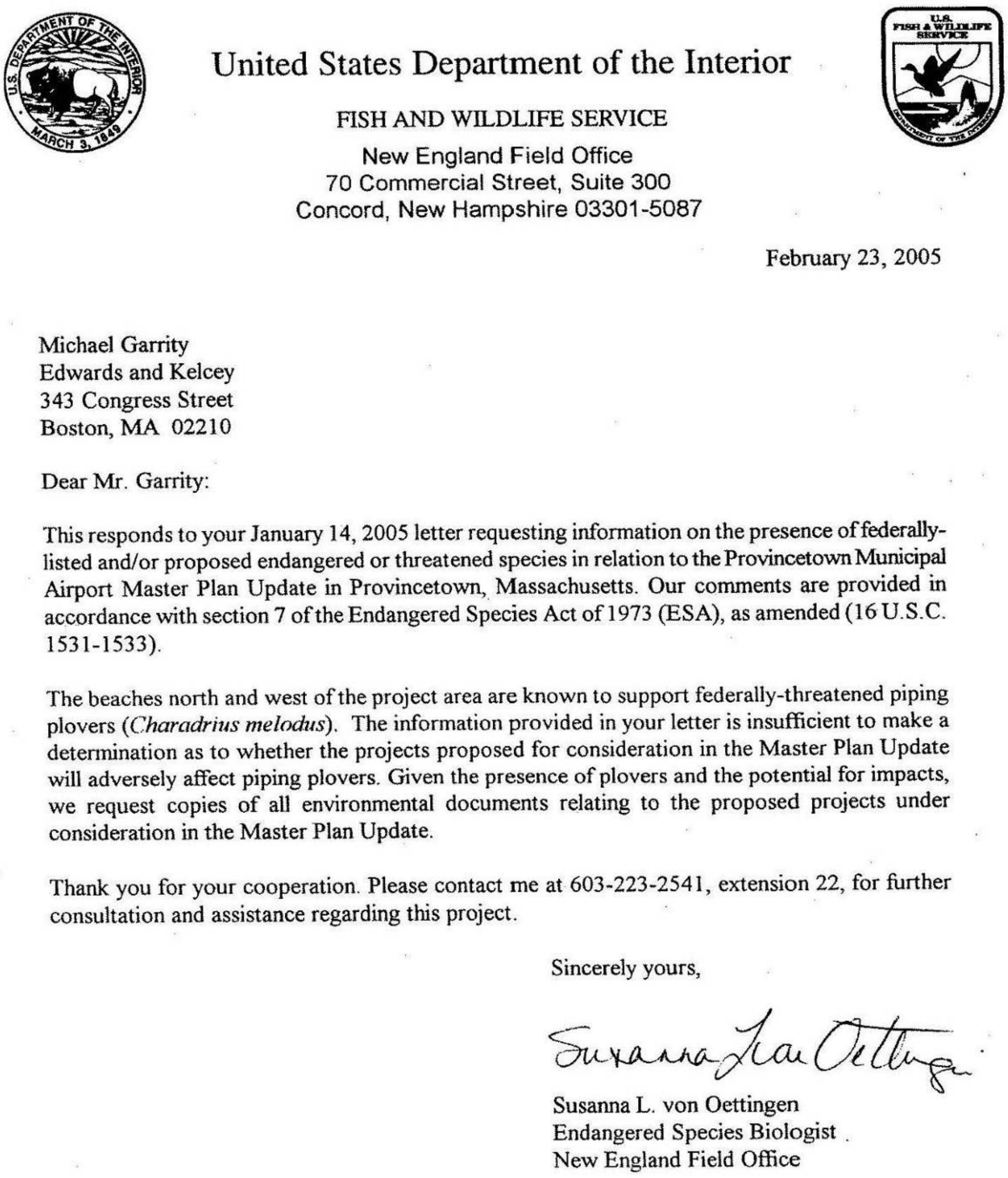
10.1 Agency Correspondence and Coordination

This section contains correspondence with agencies during preparation of the environmental documents and the minutes of agency meetings. Additional correspondence from NPS is provided in Section 13. Minutes of meetings with CCC are provided in Appendix 7.

This section contains the following items:

- Letter from US F&WS, February 23, 2005 (Page 10-3)
- Jurisdictional Determination, U.S. ACOE, January 8, 2007 (Page 10-5)
- April 2, 2007 Determination by Massachusetts Historical Commission,[on 3/05/07 EK letter] (Page 10-7)
- Letter to NPS regarding correspondence relative to historical review, April 11, 2008, with attachments. Note that the attachments are provided in black and white because similar figures are in the main document in color. (Page 10-9)
- Minutes of Meeting held at NHESP Office, December 13, 2007 (Page 10-27)
- Minutes of Meeting held at NPS CCNS Office, March 21, 2008 (Page 10-33)
- Letter from MA Office of Coastal Zone Management, April 2, 2008 (Page 10-37)
- 2005 Master Plan (MP) Advisory Group Membership (Page 10-39)
- Minutes of June 14, 2005 meeting of the MP Advisory Group (Page 10-41)
- Minutes of April 11, 2006 meeting of the MP Advisory Group (Page 10-45)
- Minutes of Meeting held at NHESP office, on December 18, 2008 (Page 10-47)
- Minutes of Meeting held at DEP Lakeville office, on February 26, 2009 (Page 10-51)
- Minutes of Meeting held at Army Corps of Engineers Concord office, on August 13, 2009 (Page 10-53)
- Minutes of Meeting held at DEP Lakeville office, on December 23, 2009 (Page 10-57)
- Minutes of Interagency Meeting held at CCC office, on January 6, 2010 (Page 10-59)

In addition to these meetings, there has been much coordination between NPS CCNS, CCC, FAA, MassDOT Aeronautics, and the Airport during 2010 to modify the document for NPS CCNS submission for their NEPA requirements.



United States Department of the Interior

FISH AND WILDLIFE SERVICE

New England Field Office
70 Commercial Street, Suite 300
Concord, New Hampshire 03301-5087

February 23, 2005

Michael Garrity
Edwards and Kelcey
343 Congress Street
Boston, MA 02210

Dear Mr. Garrity:

This responds to your January 14, 2005 letter requesting information on the presence of federally-listed and/or proposed endangered or threatened species in relation to the Provincetown Municipal Airport Master Plan Update in Provincetown, Massachusetts. Our comments are provided in accordance with section 7 of the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. 1531-1533).

The beaches north and west of the project area are known to support federally-threatened piping plovers (*Charadrius melodus*). The information provided in your letter is insufficient to make a determination as to whether the projects proposed for consideration in the Master Plan Update will adversely affect piping plovers. Given the presence of plovers and the potential for impacts, we request copies of all environmental documents relating to the proposed projects under consideration in the Master Plan Update.

Thank you for your cooperation. Please contact me at 603-223-2541, extension 22, for further consultation and assistance regarding this project.

Sincerely yours,

Susanna L. von Oettingen
Endangered Species Biologist
New England Field Office

Revised 8/13/04

JURISDICTIONAL DETERMINATION
U.S. Army Corps of Engineers

DISTRICT OFFICE: New England District
FILE NUMBER & APPLICANT: Provincetown Airport Commission, NAE-2006-4281

PROJECT LOCATION INFORMATION:
State: Massachusetts
County: Barnstable
Center coordinates of site (latitude/longitude):
Approximate size of area (parcel) reviewed, including uplands: acres.
Name of nearest waterway: Cape Cod Bay
Name of watershed: Cape Cod Bay

JURISDICTIONAL DETERMINATION
Completed: Desktop determination ☐ Date:
Site visit(s) ☒ Date(s): January 8, 2007

Jurisdictional Determination (JD):

☒ Preliminary JD - Based on available information, ☒ *there appear to be* (or) ☐ *there appear to be no* "waters of the United States" and/or "navigable waters of the United States" on the project site. A preliminary JD is not appealable (Reference 33 CFR part 331).

☐ Approved JD – An approved JD is an appealable action (Reference 33 CFR part 331).
Check all that apply:

☐ *There are* "navigable waters of the United States" (as defined by 33 CFR part 329 and associated guidance) within the reviewed area. Approximate size of jurisdictional area: .

☐ *There are* "waters of the United States" (as defined by 33 CFR part 328 and associated guidance) within the reviewed area. Approximate size of jurisdictional area: .

☐ *There are "isolated, non-navigable, intra-state* waters or wetlands" within the reviewed area.
☐ Decision supported by SWANCC/Migratory Bird Rule Information Sheet for Determination of No Jurisdiction.

BASIS OF JURISDICTIONAL DETERMINATION:

A. Waters defined under 33 CFR part 329 as "navigable waters of the United States":
☒ The presence of waters that are subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.

B. Waters defined under 33 CFR part 328.3(a) as "waters of the United States":
☒ (1) The presence of waters, which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide.
☐ (2) The presence of interstate waters including interstate wetlands[1].
☐ (3) The presence of other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate commerce including any such waters (check all that apply):
  ☐ (i) which are or could be used by interstate or foreign travelers for recreational or other purposes.
  ☐ (ii) from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
  ☐ (iii) which are or could be used for industrial purposes by industries in interstate commerce.
☐ (4) Impoundments of waters otherwise defined as waters of the US.
☒ (5) The presence of a tributary to a water identified in (1) – (4) above.
☐ (6) The presence of territorial seas.
☒ (7) The presence of wetlands adjacent[2] to other waters of the US, except for those wetlands adjacent to other wetlands.

Rationale for the Basis of Jurisdictional Determination (applies to any boxes checked above). *If the jurisdictional water or wetland is not itself a navigable water of the United States, describe connection(s) to the downstream navigable waters. If B(1) or B(3) is used as the Basis of Jurisdiction, document navigability and/or interstate commerce connection (i.e., discuss site conditions, including why the waterbody is navigable and/or how the destruction of the waterbody could affect interstate or foreign commerce). If B(2, 4, 5 or 6) is used as the Basis of Jurisdiction, document the rationale used to make the determination. If B(7) is used as the Basis of Jurisdiction, document the rationale used to make adjacency determination:*

Lateral Extent of Jurisdiction: (Reference: 33 CFR parts 328 and 329)

▨ Ordinary High Water Mark indicated by:
- ☐ clear, natural line impressed on the bank
- ☐ the presence of litter and debris
- ☐ changes in the character of soil
- ☐ destruction of terrestrial vegetation
- ☐ shelving
- ☐ other:

☒ High Tide Line indicated by:
- ☐ oil or scum line along shore objects
- ☐ fine shell or debris deposits (foreshore)
- ☒ physical markings/characteristics
- ☐ tidal gages
- ☐ other:

▨ Mean High Water Mark indicated by:
☐ survey to available datum; ☒ physical markings; ☒ vegetation lines/changes in vegetation types.

☒ Wetland boundaries, as shown on the attached wetland delineation map and/or in a delineation report prepared by:

Basis For Not Asserting Jurisdiction:

▨ The reviewed area consists entirely of uplands.
▨ Unable to confirm the presence of waters in 33 CFR part 328(a)(1, 2, or 4-7).
▨ Headquarters declined to approve jurisdiction on the basis of 33 CFR part 328.3(a)(3).
▨ The Corps has made a case-specific determination that the following waters present on the site are not Waters of the United States:
- ☐ Waste treatment systems, including treatment ponds or lagoons, pursuant to 33 CFR part 328.3.
- ☐ Artificially irrigated areas, which would revert to upland if the irrigation ceased.
- ☐ Artificial lakes and ponds created by excavating and/or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing.
- ☐ Artificial reflecting or swimming pools or other small ornamental bodies of water created by excavating and/or diking dry land to retain water for primarily aesthetic reasons.
- ☐ Water-filled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of waters of the United States found at 33 CFR 328.3(a).
- ☐ Isolated, intrastate wetland with no nexus to interstate commerce.
- ☐ Prior converted cropland, as determined by the Natural Resources Conservation Service. Explain rationale:
- ☐ Non-tidal drainage or irrigation ditches excavated on dry land. Explain rationale:
- ☐ Other (explain):

DATA REVIEWED FOR JURSIDICTIONAL DETERMINATION (mark all that apply):

☒ Maps, plans, plots or plat submitted by or on behalf of the applicant.
▨ Data sheets prepared/submitted by or on behalf of the applicant.
- ☐ This office concurs with the delineation report, dated , prepared by (company):
- ☐ This office does not concur with the delineation report, dated , prepared by (company):

▨ Data sheets prepared by the Corps.
▨ Corps' navigable waters' studies:
▨ U.S. Geological Survey Hydrologic Atlas:
▨ U.S. Geological Survey 7.5 Minute Topographic maps:
▨ U.S. Geological Survey 7.5 Minute Historic quadrangles:
▨ U.S. Geological Survey 15 Minute Historic quadrangles:
▨ USDA Natural Resources Conservation Service Soil Survey:
▨ National wetlands inventory maps:
▨ State/Local wetland inventory maps:
▨ FEMA/FIRM maps (Map Name & Date):
▨ 100-year Floodplain Elevation is: (NGVD)
☒ Aerial Photographs (Name & Date):
▨ Other photographs (Date):
▨ Advanced Identification Wetland maps:
☒ Site visit/determination conducted on: January 8, 2007
▨ Applicable/supporting case law:
▨ Other information (please specify):

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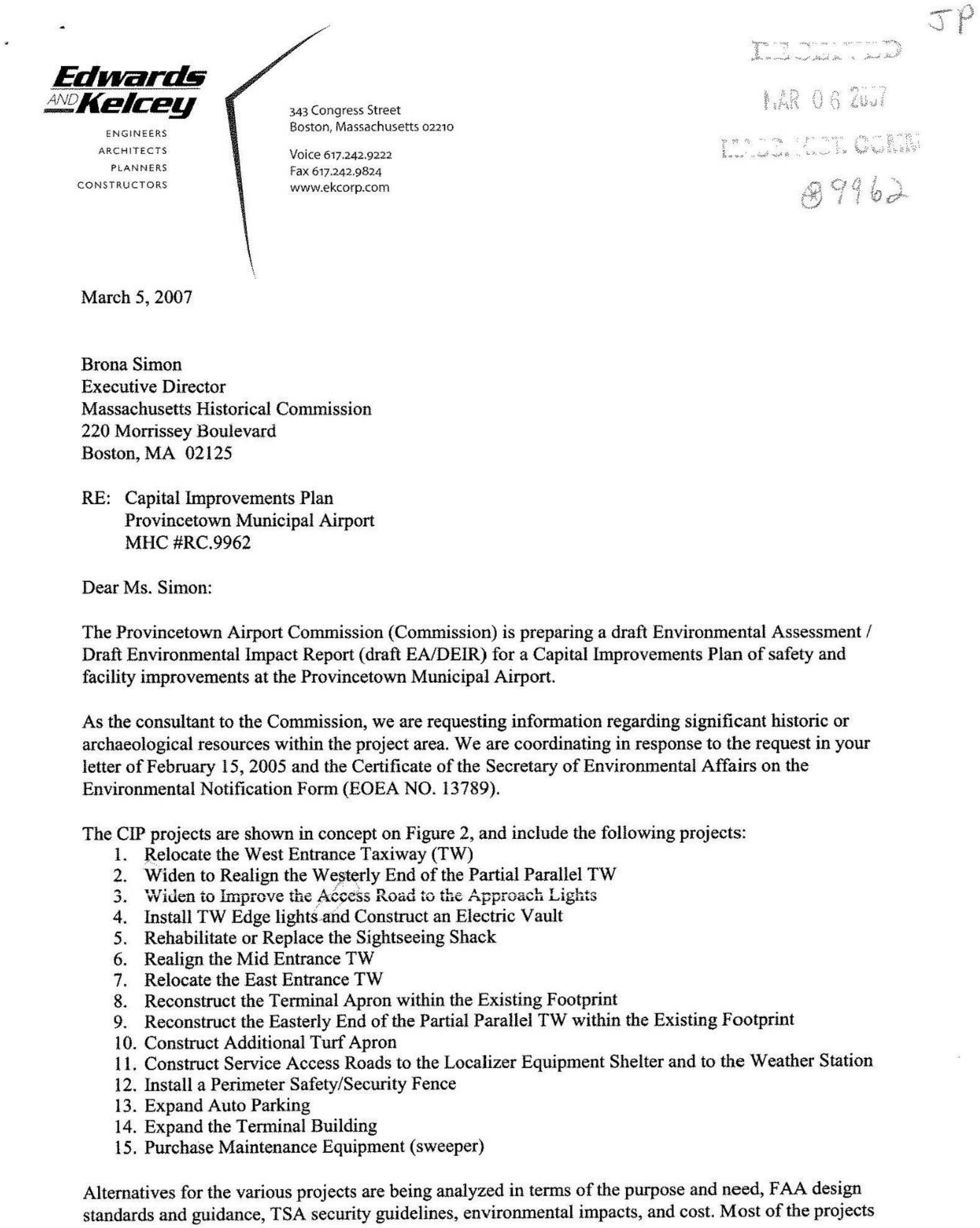
[1] Wetlands are identified and delineated using the methods and criteria established in the Corps Wetland Delineation Manual (87 Manual) (i.e., occurrence of hydrophytic vegetation, hydric soils and wetland hydrology).

[2] The term "adjacent" means bordering, contiguous, or neighboring. Wetlands separated from other waters of the U.S. by man-made dikes or barriers, natural river berms, beach dunes, and the like are also adjacent.



Edwards and Kelcey
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ARCHITECTS
PLANNERS
CONSTRUCTORS

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RECEIVED
MAR 06 2007
MASS. HIST. COMM.
#9962

March 5, 2007

Brona Simon
Executive Director
Massachusetts Historical Commission
220 Morrissey Boulevard
Boston, MA 02125

RE: Capital Improvements Plan
Provincetown Municipal Airport
MHC #RC.9962

Dear Ms. Simon:

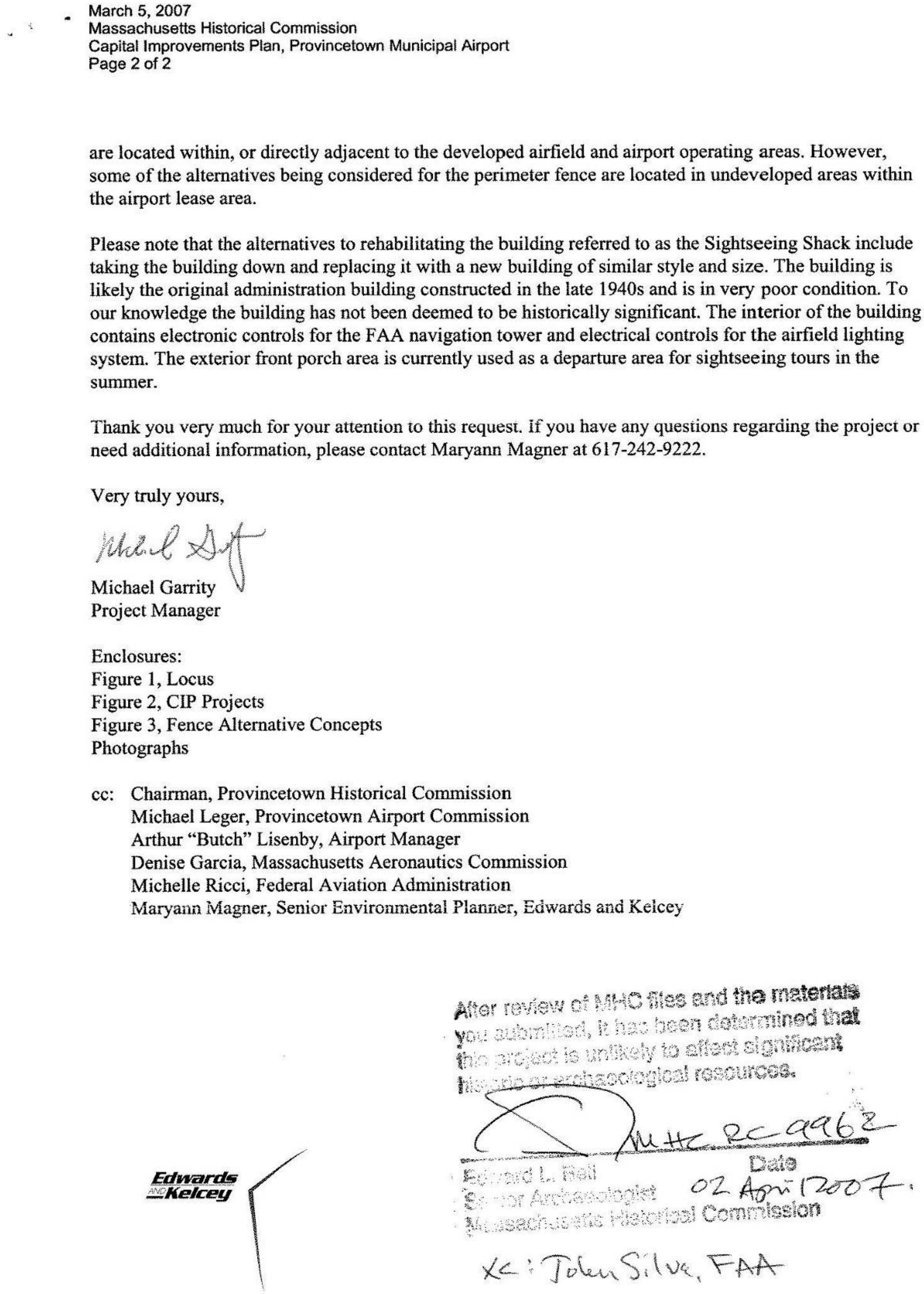
The Provincetown Airport Commission (Commission) is preparing a draft Environmental Assessment / Draft Environmental Impact Report (draft EA/DEIR) for a Capital Improvements Plan of safety and facility improvements at the Provincetown Municipal Airport.

As the consultant to the Commission, we are requesting information regarding significant historic or archaeological resources within the project area. We are coordinating in response to the request in your letter of February 15, 2005 and the Certificate of the Secretary of Environmental Affairs on the Environmental Notification Form (EOEA NO. 13789).

The CIP projects are shown in concept on Figure 2, and include the following projects:

1. Relocate the West Entrance Taxiway (TW)
2. Widen to Realign the Westerly End of the Partial Parallel TW
3. Widen to Improve the Access Road to the Approach Lights
4. Install TW Edge lights and Construct an Electric Vault
5. Rehabilitate or Replace the Sightseeing Shack
6. Realign the Mid Entrance TW
7. Relocate the East Entrance TW
8. Reconstruct the Terminal Apron within the Existing Footprint
9. Reconstruct the Easterly End of the Partial Parallel TW within the Existing Footprint
10. Construct Additional Turf Apron
11. Construct Service Access Roads to the Localizer Equipment Shelter and to the Weather Station
12. Install a Perimeter Safety/Security Fence
13. Expand Auto Parking
14. Expand the Terminal Building
15. Purchase Maintenance Equipment (sweeper)

Alternatives for the various projects are being analyzed in terms of the purpose and need, FAA design standards and guidance, TSA security guidelines, environmental impacts, and cost. Most of the projects



are located within, or directly adjacent to the developed airfield and airport operating areas. However, some of the alternatives being considered for the perimeter fence are located in undeveloped areas within the airport lease area.

Please note that the alternatives to rehabilitating the building referred to as the Sightseeing Shack include taking the building down and replacing it with a new building of similar style and size. The building is likely the original administration building constructed in the late 1940s and is in very poor condition. To our knowledge the building has not been deemed to be historically significant. The interior of the building contains electronic controls for the FAA navigation tower and electrical controls for the airfield lighting system. The exterior front porch area is currently used as a departure area for sightseeing tours in the summer.

Thank you very much for your attention to this request. If you have any questions regarding the project or need additional information, please contact Maryann Magner at 617-242-9222.

Very truly yours,

Michael Garrity
Project Manager

Enclosures:
Figure 1, Locus
Figure 2, CIP Projects
Figure 3, Fence Alternative Concepts
Photographs

cc: Chairman, Provincetown Historical Commission
Michael Leger, Provincetown Airport Commission
Arthur "Butch" Lisenby, Airport Manager
Denise Garcia, Massachusetts Aeronautics Commission
Michelle Ricci, Federal Aviation Administration
Maryann Magner, Senior Environmental Planner, Edwards and Kelcey

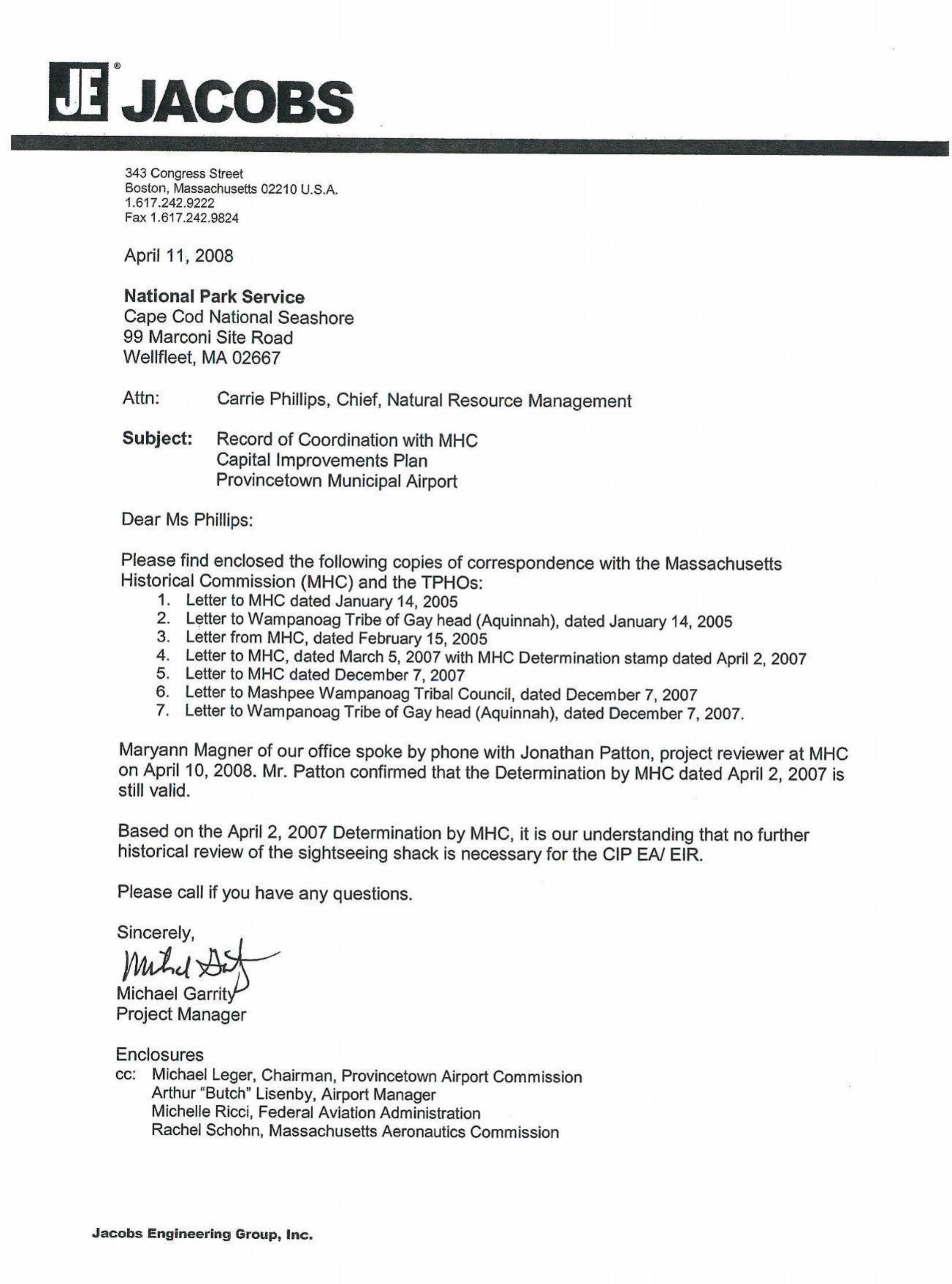
After review of MHC files and the materials you submitted, it has been determined that this project is unlikely to affect significant historic or archaeological resources.

MHC RC 9962

Edward L. Bell
Senior Archaeologist
Massachusetts Historical Commission

Date 02 April 2007.

xc: John Silva, FAA



JE JACOBS

343 Congress Street
Boston, Massachusetts 02210 U.S.A.
1.617.242.9222
Fax 1.617.242.9824

April 11, 2008

National Park Service
Cape Cod National Seashore
99 Marconi Site Road
Wellfleet, MA 02667

Attn: Carrie Phillips, Chief, Natural Resource Management

Subject: Record of Coordination with MHC
Capital Improvements Plan
Provincetown Municipal Airport

Dear Ms Phillips:

Please find enclosed the following copies of correspondence with the Massachusetts Historical Commission (MHC) and the TPHOs:

1. Letter to MHC dated January 14, 2005
2. Letter to Wampanoag Tribe of Gay head (Aquinnah), dated January 14, 2005
3. Letter from MHC, dated February 15, 2005
4. Letter to MHC, dated March 5, 2007 with MHC Determination stamp dated April 2, 2007
5. Letter to MHC dated December 7, 2007
6. Letter to Mashpee Wampanoag Tribal Council, dated December 7, 2007
7. Letter to Wampanoag Tribe of Gay head (Aquinnah), dated December 7, 2007.

Maryann Magner of our office spoke by phone with Jonathan Patton, project reviewer at MHC on April 10, 2008. Mr. Patton confirmed that the Determination by MHC dated April 2, 2007 is still valid.

Based on the April 2, 2007 Determination by MHC, it is our understanding that no further historical review of the sightseeing shack is necessary for the CIP EA/ EIR.

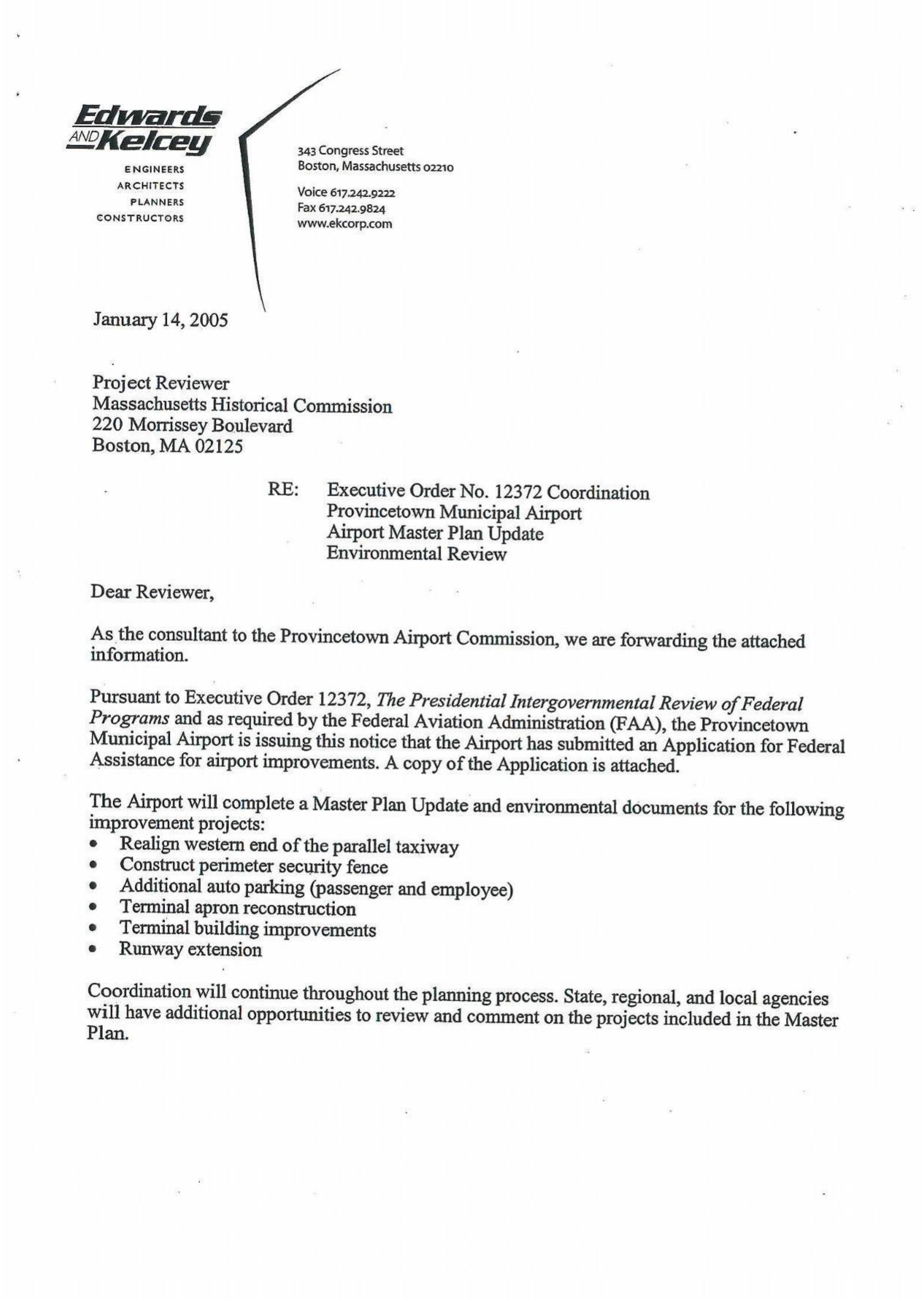
Please call if you have any questions.

Sincerely,

Michael Garrity
Project Manager

Enclosures
cc: Michael Leger, Chairman, Provincetown Airport Commission
Arthur "Butch" Lisenby, Airport Manager
Michelle Ricci, Federal Aviation Administration
Rachel Schohn, Massachusetts Aeronautics Commission

Jacobs Engineering Group, Inc.



Edwards AND Kelcey
ENGINEERS
ARCHITECTS
PLANNERS
CONSTRUCTORS

343 Congress Street
Boston, Massachusetts 02210

Voice 617.242.9222
Fax 617.242.9824
www.ekcorp.com

January 14, 2005

Project Reviewer
Massachusetts Historical Commission
220 Morrissey Boulevard
Boston, MA 02125

RE: Executive Order No. 12372 Coordination
Provincetown Municipal Airport
Airport Master Plan Update
Environmental Review

Dear Reviewer,

As the consultant to the Provincetown Airport Commission, we are forwarding the attached information.

Pursuant to Executive Order 12372, *The Presidential Intergovernmental Review of Federal Programs* and as required by the Federal Aviation Administration (FAA), the Provincetown Municipal Airport is issuing this notice that the Airport has submitted an Application for Federal Assistance for airport improvements. A copy of the Application is attached.

The Airport will complete a Master Plan Update and environmental documents for the following improvement projects:

- Realign western end of the parallel taxiway
- Construct perimeter security fence
- Additional auto parking (passenger and employee)
- Terminal apron reconstruction
- Terminal building improvements
- Runway extension

Coordination will continue throughout the planning process. State, regional, and local agencies will have additional opportunities to review and comment on the projects included in the Master Plan.

Additional information will be sent to you as part of the Agency Coordination for the Master Plan Process.

Thank you very much for your attention to this matter. You may submit comments to the above address. If you have any questions during your review process, please contact me at 617-242-9222 or mgarrity@ekmail.com.

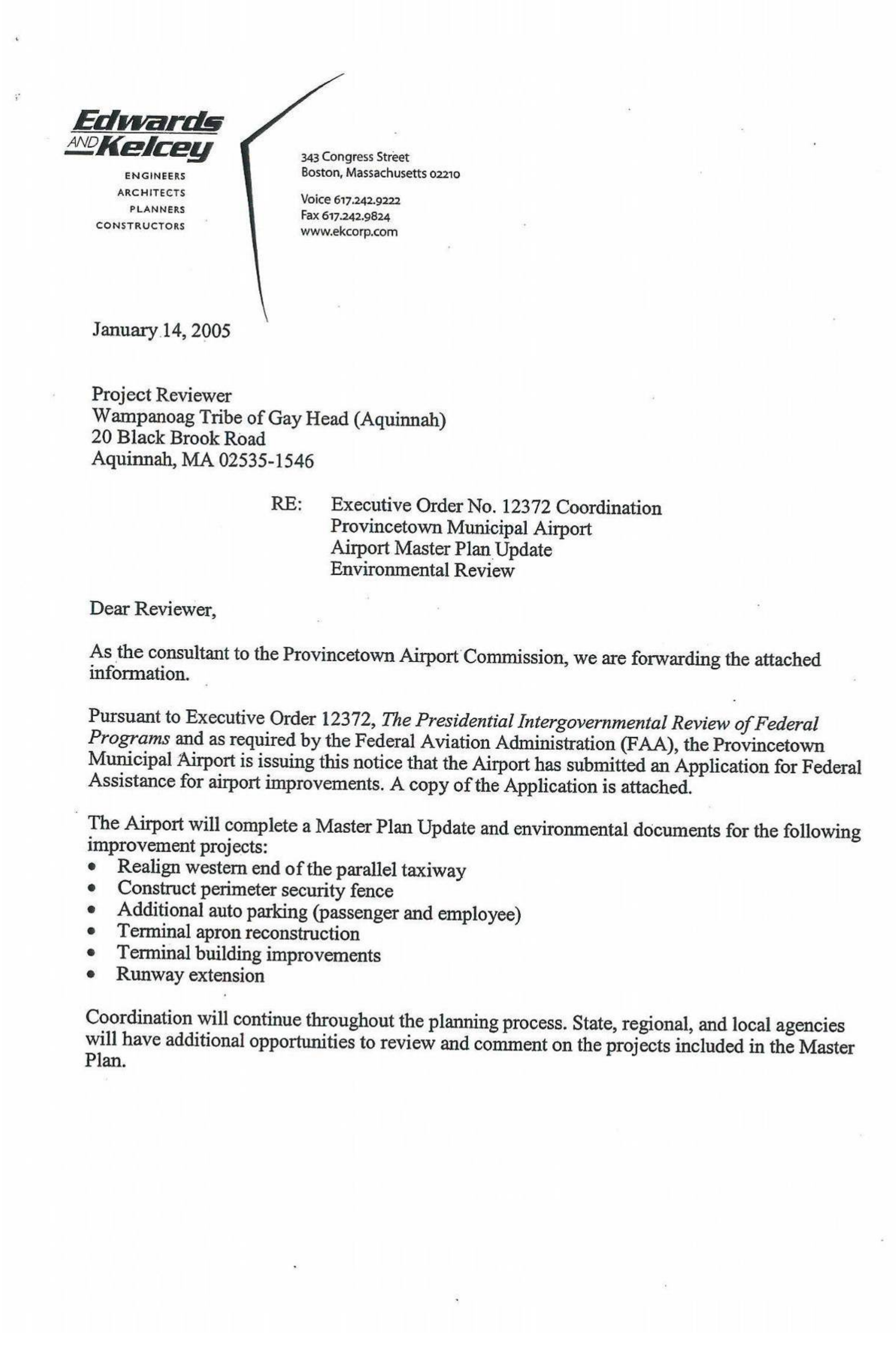
Very truly yours,

Michael Garrity
Project Manager

Attachments: Application for Federal Assistance
Locus Map

cc: Richard Silva, Chairman, Provincetown Airport Commission
Scott MacLeod, Massachusetts Aeronautics Commission
John Silva, Federal Aviation Administration

Edwards AND Kelcey



Edwards AND Kelcey
ENGINEERS
ARCHITECTS
PLANNERS
CONSTRUCTORS

343 Congress Street
Boston, Massachusetts 02210

Voice 617.242.9222
Fax 617.242.9824
www.ekcorp.com

January 14, 2005

Project Reviewer
Wampanoag Tribe of Gay Head (Aquinnah)
20 Black Brook Road
Aquinnah, MA 02535-1546

RE: Executive Order No. 12372 Coordination
Provincetown Municipal Airport
Airport Master Plan Update
Environmental Review

Dear Reviewer,

As the consultant to the Provincetown Airport Commission, we are forwarding the attached information.

Pursuant to Executive Order 12372, *The Presidential Intergovernmental Review of Federal Programs* and as required by the Federal Aviation Administration (FAA), the Provincetown Municipal Airport is issuing this notice that the Airport has submitted an Application for Federal Assistance for airport improvements. A copy of the Application is attached.

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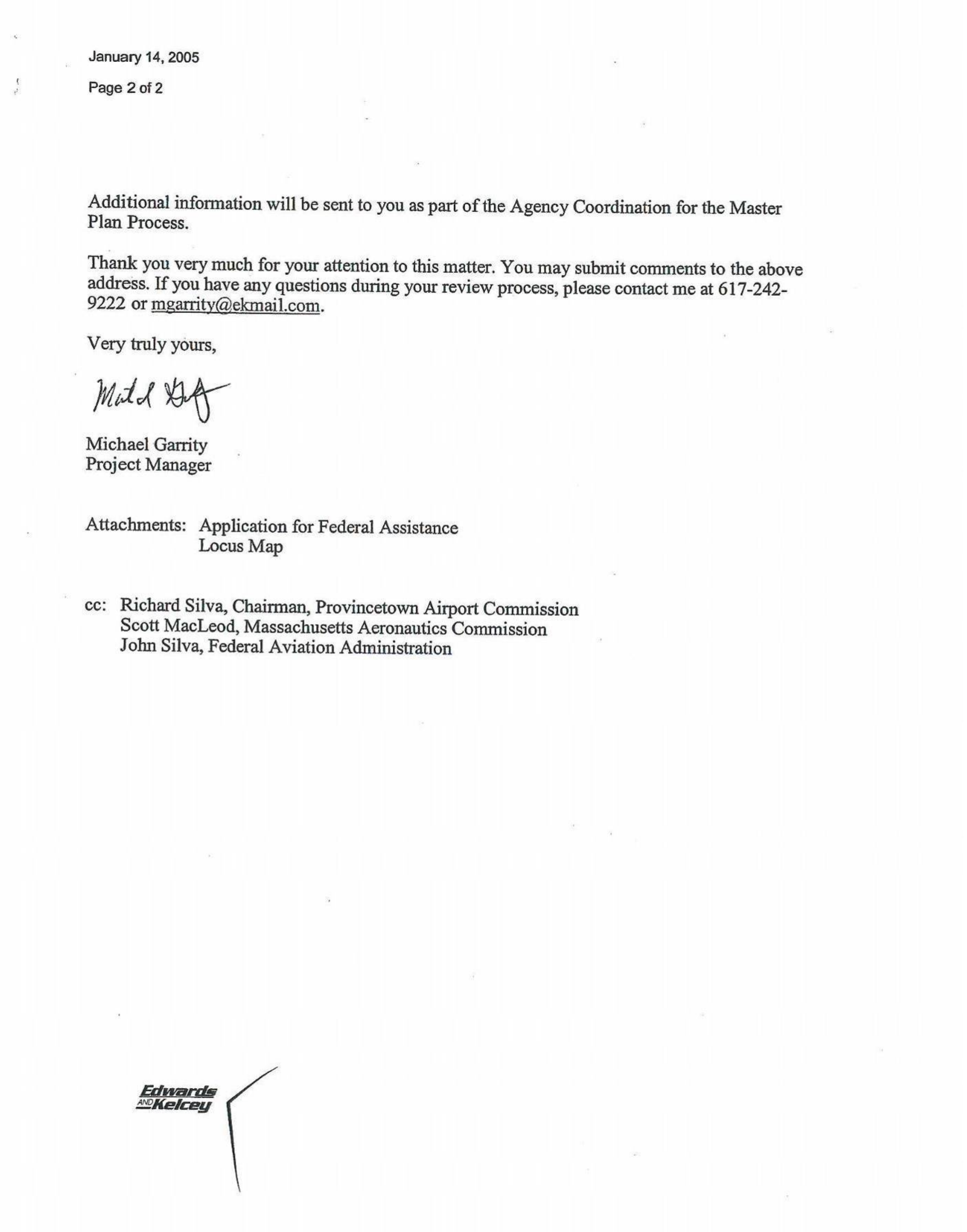

January 14, 2005

Page 2 of 2

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Thank you very much for your attention to this matter. You may submit comments to the above address. If you have any questions during your review process, please contact me at 617-242-9222 or mgarrity@ekmail.com.

Very truly yours,

Michael Garrity
Project Manager

Attachments: Application for Federal Assistance
Locus Map

cc: Richard Silva, Chairman, Provincetown Airport Commission
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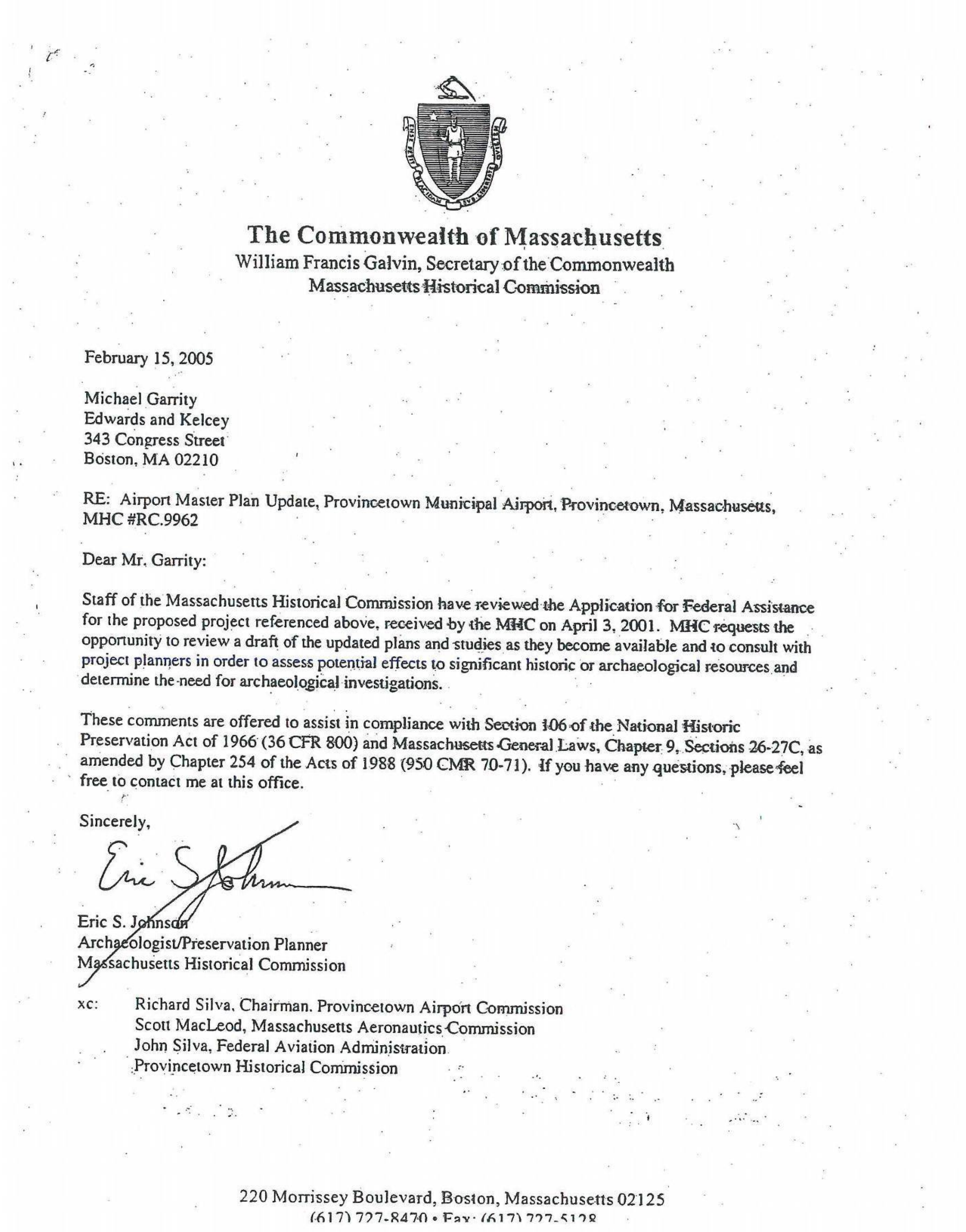
John Silva, Federal Aviation Administration

Edwards AND Kelcey



The Commonwealth of Massachusetts
William Francis Galvin, Secretary of the Commonwealth
Massachusetts Historical Commission

February 15, 2005

Michael Garrity
Edwards and Kelcey
343 Congress Street
Boston, MA 02210

RE: Airport Master Plan Update, Provincetown Municipal Airport, Provincetown, Massachusetts, MHC #RC.9962

Dear Mr. Garrity:

Staff of the Massachusetts Historical Commission have reviewed the Application for Federal Assistance for the proposed project referenced above, received by the MHC on April 3, 2001. MHC requests the opportunity to review a draft of the updated plans and studies as they become available and to consult with project planners in order to assess potential effects to significant historic or archaeological resources and determine the need for archaeological investigations.

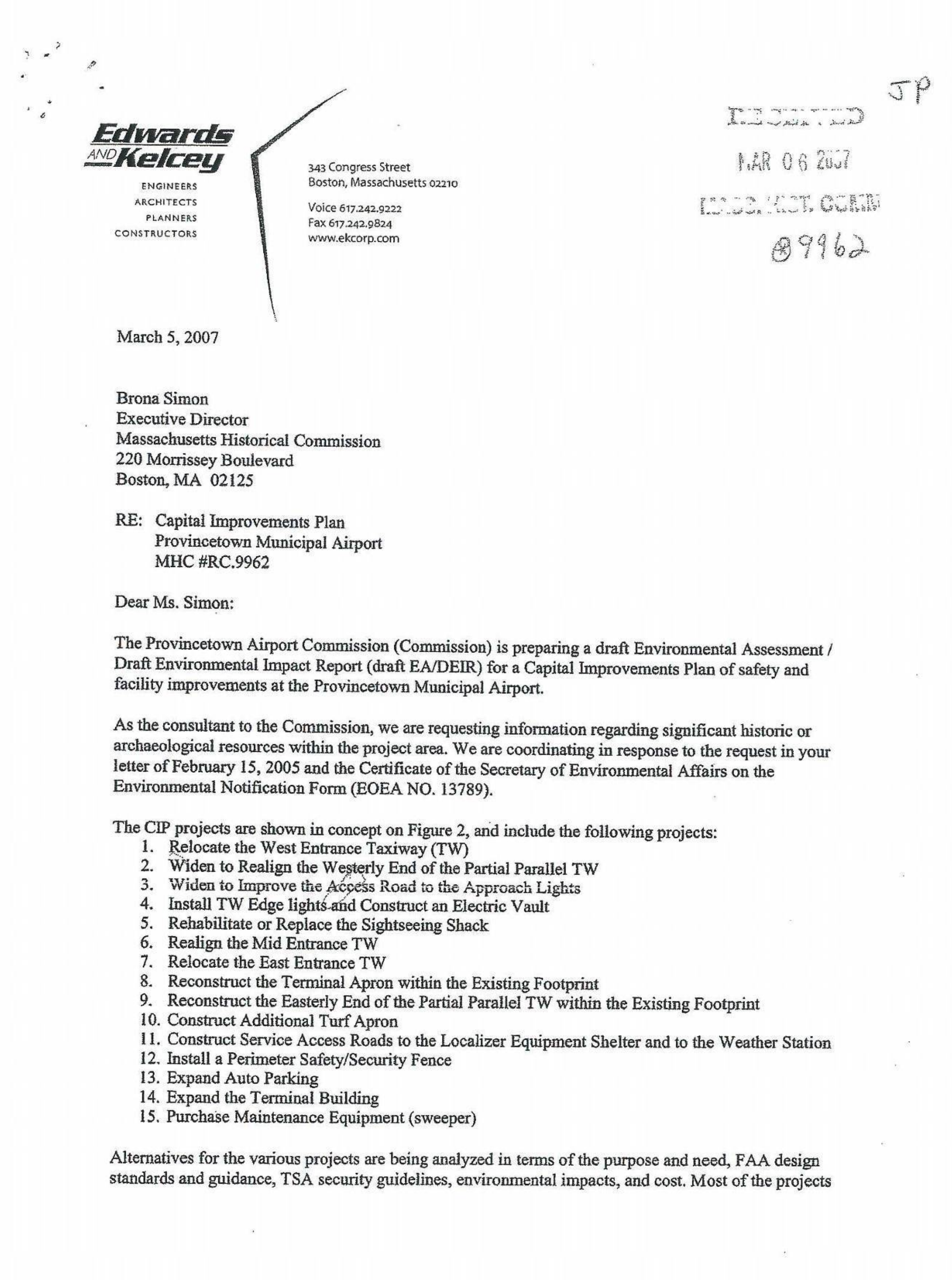
These comments are offered to assist in compliance with Section 106 of the National Historic Preservation Act of 1966 (36 CFR 800) and Massachusetts General Laws, Chapter 9, Sections 26-27C, as amended by Chapter 254 of the Acts of 1988 (950 CMR 70-71). If you have any questions, please feel free to contact me at this office.

Sincerely,

Eric S. Johnson
Archaeologist/Preservation Planner
Massachusetts Historical Commission

xc: Richard Silva, Chairman, Provincetown Airport Commission
Scott MacLeod, Massachusetts Aeronautics Commission
John Silva, Federal Aviation Administration
Provincetown Historical Commission

220 Morrissey Boulevard, Boston, Massachusetts 02125
(617) 727-8470 • Fax: (617) 727-5128



JP

RECEIVED
MAR 06 2007
MASS. HIST. COMM.
#9962

Edwards AND Kelcey
ENGINEERS
ARCHITECTS
PLANNERS
CONSTRUCTORS

343 Congress Street
Boston, Massachusetts 02210

Voice 617.242.9222
Fax 617.242.9824
www.ekcorp.com

March 5, 2007

Brona Simon
Executive Director
Massachusetts Historical Commission
220 Morrissey Boulevard
Boston, MA 02125

RE: Capital Improvements Plan
Provincetown Municipal Airport
MHC #RC.9962

Dear Ms. Simon:

The Provincetown Airport Commission (Commission) is preparing a draft Environmental Assessment / Draft Environmental Impact Report (draft EA/DEIR) for a Capital Improvements Plan of safety and facility improvements at the Provincetown Municipal Airport.

As the consultant to the Commission, we are requesting information regarding significant historic or archaeological resources within the project area. We are coordinating in response to the request in your letter of February 15, 2005 and the Certificate of the Secretary of Environmental Affairs on the Environmental Notification Form (EOEA NO. 13789).

The CIP projects are shown in concept on Figure 2, and include the following projects:

1. Relocate the West Entrance Taxiway (TW)
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13. Expand Auto Parking
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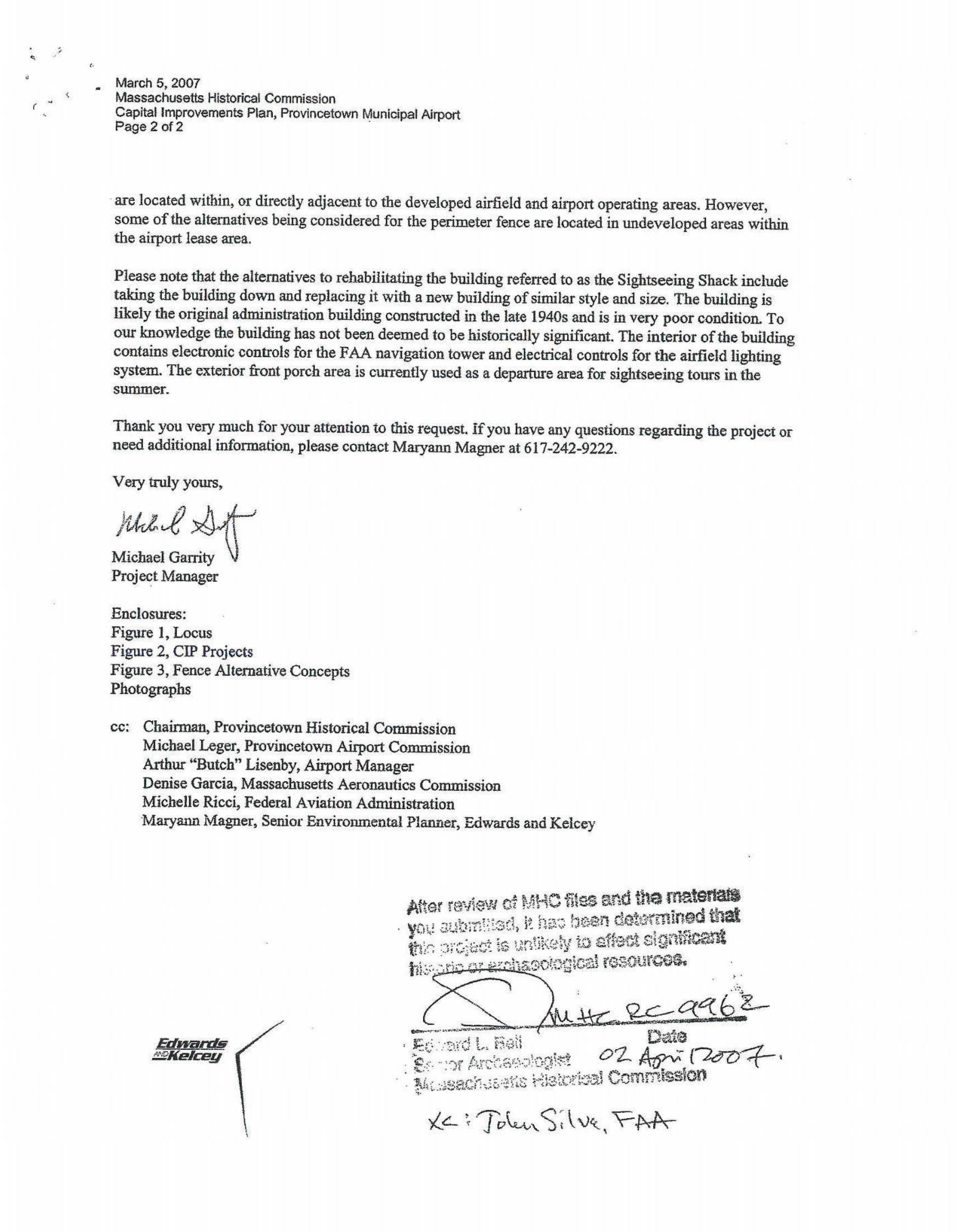


March 5, 2007
Massachusetts Historical Commission
Capital Improvements Plan, Provincetown Municipal Airport
Page 2 of 2

are located within, or directly adjacent to the developed airfield and airport operating areas. However, some of the alternatives being considered for the perimeter fence are located in undeveloped areas within the airport lease area.

Please note that the alternatives to rehabilitating the building referred to as the Sightseeing Shack include taking the building down and replacing it with a new building of similar style and size. The building is likely the original administration building constructed in the late 1940s and is in very poor condition. To our knowledge the building has not been deemed to be historically significant. The interior of the building contains electronic controls for the FAA navigation tower and electrical controls for the airfield lighting system. The exterior front porch area is currently used as a departure area for sightseeing tours in the summer.

Thank you very much for your attention to this request. If you have any questions regarding the project or need additional information, please contact Maryann Magner at 617-242-9222.

Very truly yours,

Michael Garrity
Project Manager

Enclosures:
Figure 1, Locus
Figure 2, CIP Projects
Figure 3, Fence Alternative Concepts
Photographs

cc: Chairman, Provincetown Historical Commission
Michael Leger, Provincetown Airport Commission
Arthur "Butch" Lisenby, Airport Manager
Denise Garcia, Massachusetts Aeronautics Commission
Michelle Ricci, Federal Aviation Administration
Maryann Magner, Senior Environmental Planner, Edwards and Kelcey

Edwards AND Kelcey

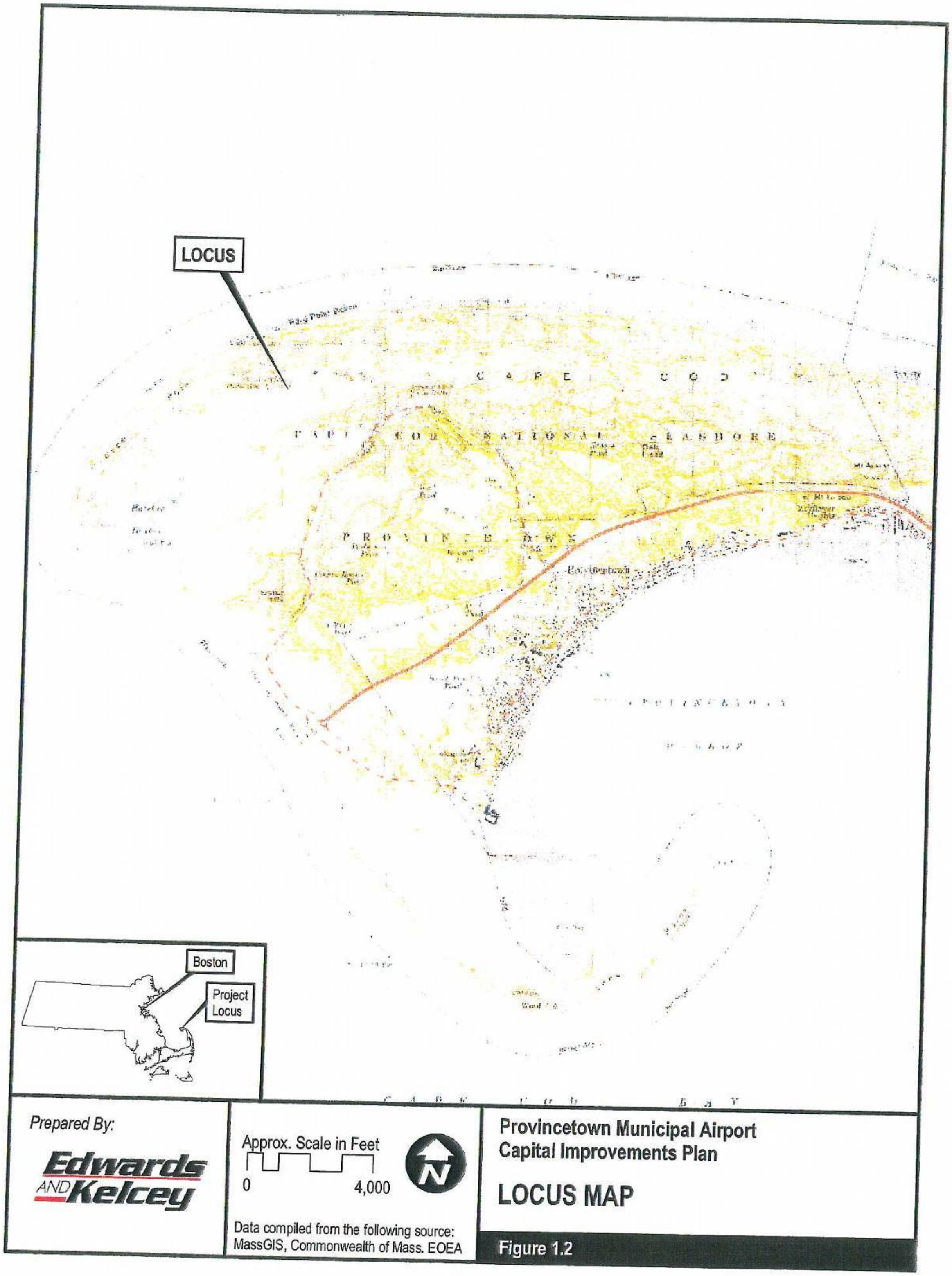
After review of MHC files and the materials you submitted, it has been determined that this project is unlikely to affect significant historic or archaeological resources.

MHC RC 9962

Edward L. Bell
Senior Archaeologist
Massachusetts Historical Commission

Date
02 April 2007.

xc: John Silva, FAA

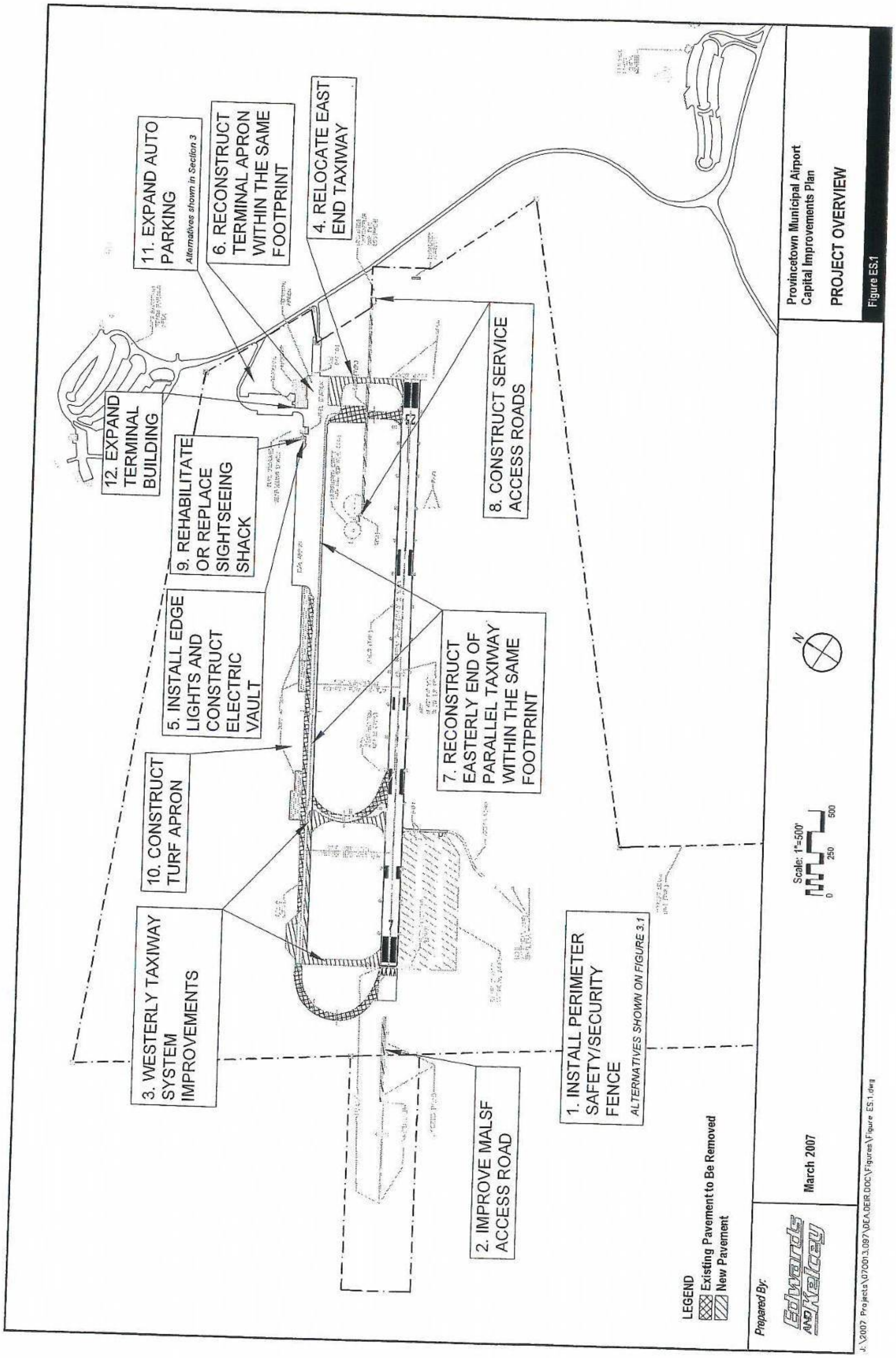


Data compiled from the following source: MassGIS, Commonwealth of Mass. EOEA

Provincetown Municipal Airport
Capital Improvements Plan

LOCUS MAP

Figure 1.2


1. INSTALL PERIMETER SAFETY/SECURITY FENCE
ALTERNATIVES SHOWN ON FIGURE 3.1
2. IMPROVE MALSF ACCESS ROAD
3. WESTERLY TAXIWAY SYSTEM IMPROVEMENTS
4. RELOCATE EAST END TAXIWAY
5. INSTALL EDGE LIGHTS AND CONSTRUCT ELECTRIC VAULT
6. RECONSTRUCT TERMINAL APRON WITHIN THE SAME FOOTPRINT
7. RECONSTRUCT EASTERLY END OF PARALLEL TAXIWAY WITHIN THE SAME FOOTPRINT
8. CONSTRUCT SERVICE ACCESS ROADS
9. REHABILITATE OR REPLACE SIGHTSEEING SHACK
10. CONSTRUCT TURF APRON
11. EXPAND AUTO PARKING
Alternatives shown in Section 3
12. EXPAND TERMINAL BUILDING
25
7
N
Scale: 1"=500'
0
250
500
LEGEND
Existing Pavement to Be Removed
New Pavement
Prepared By:
Edwards and Kelcey
March 2007
Provincetown Municipal Airport
Capital Improvements Plan
PROJECT OVERVIEW
Figure ES.1
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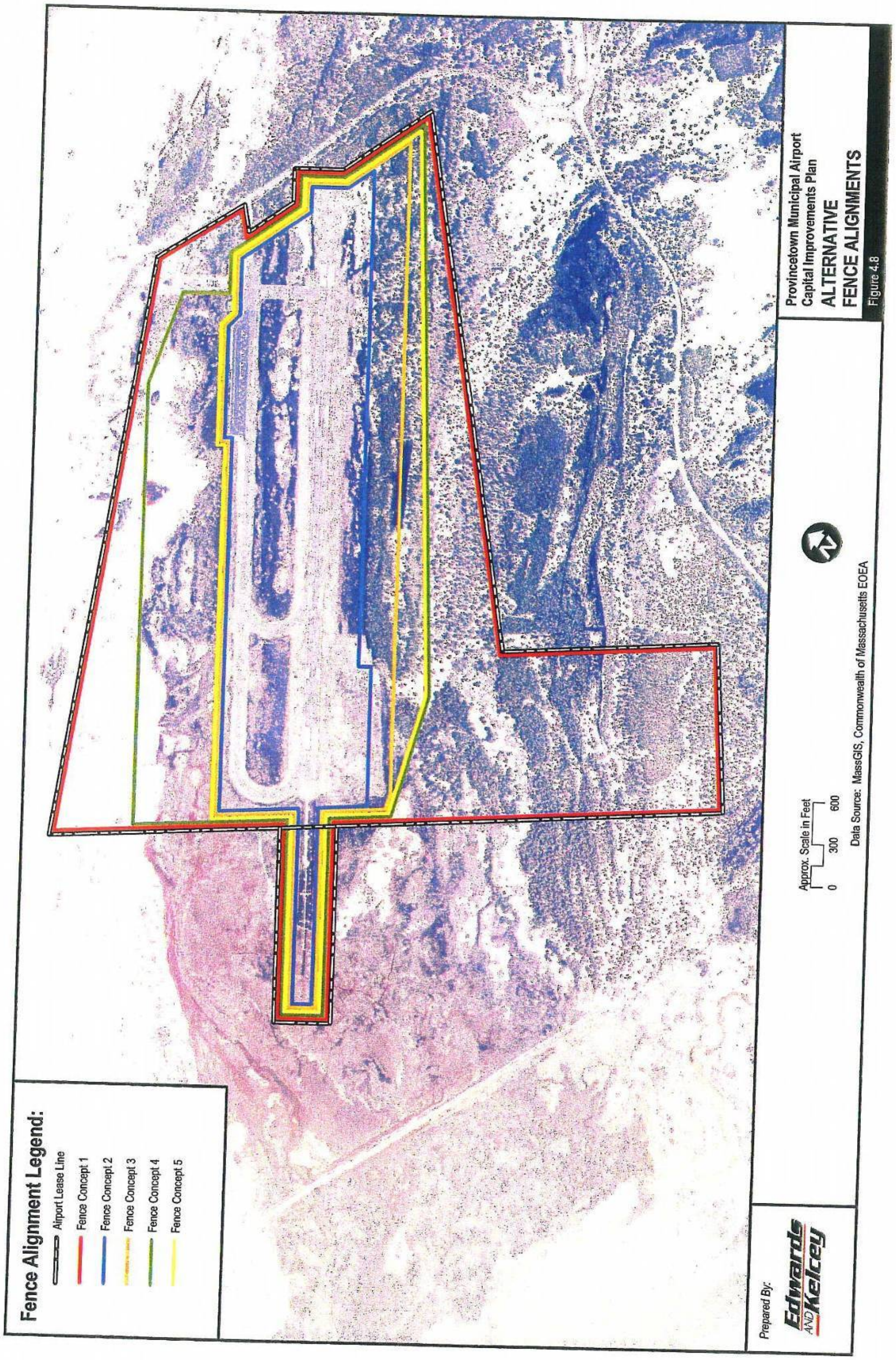
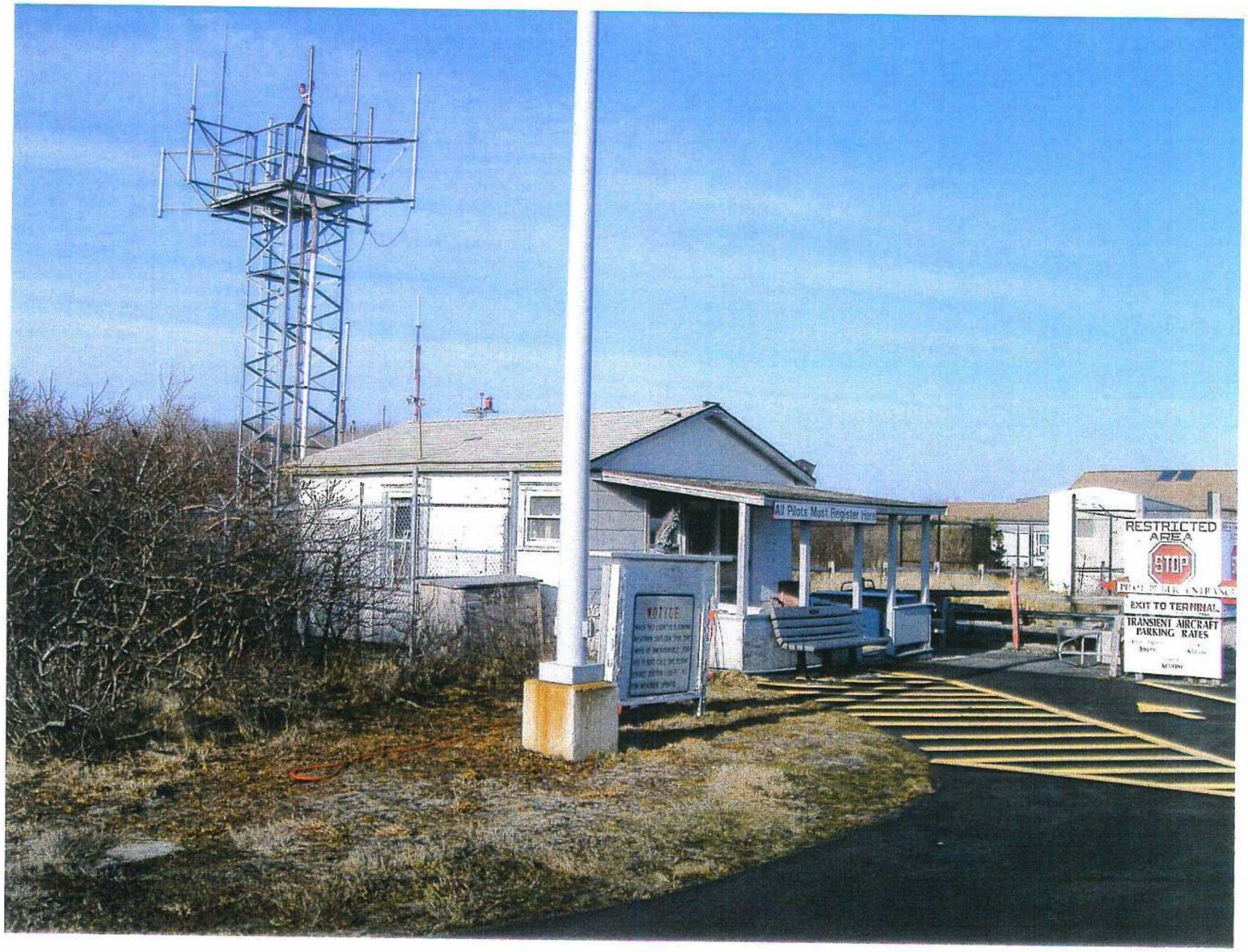


Provincetown Municipal Airport
Capital Improvements Plan
ALTERNATIVE
FENCE ALIGNMENTS
Figure 4.8

Data Source: MassGIS, Commonwealth of Massachusetts EOEA

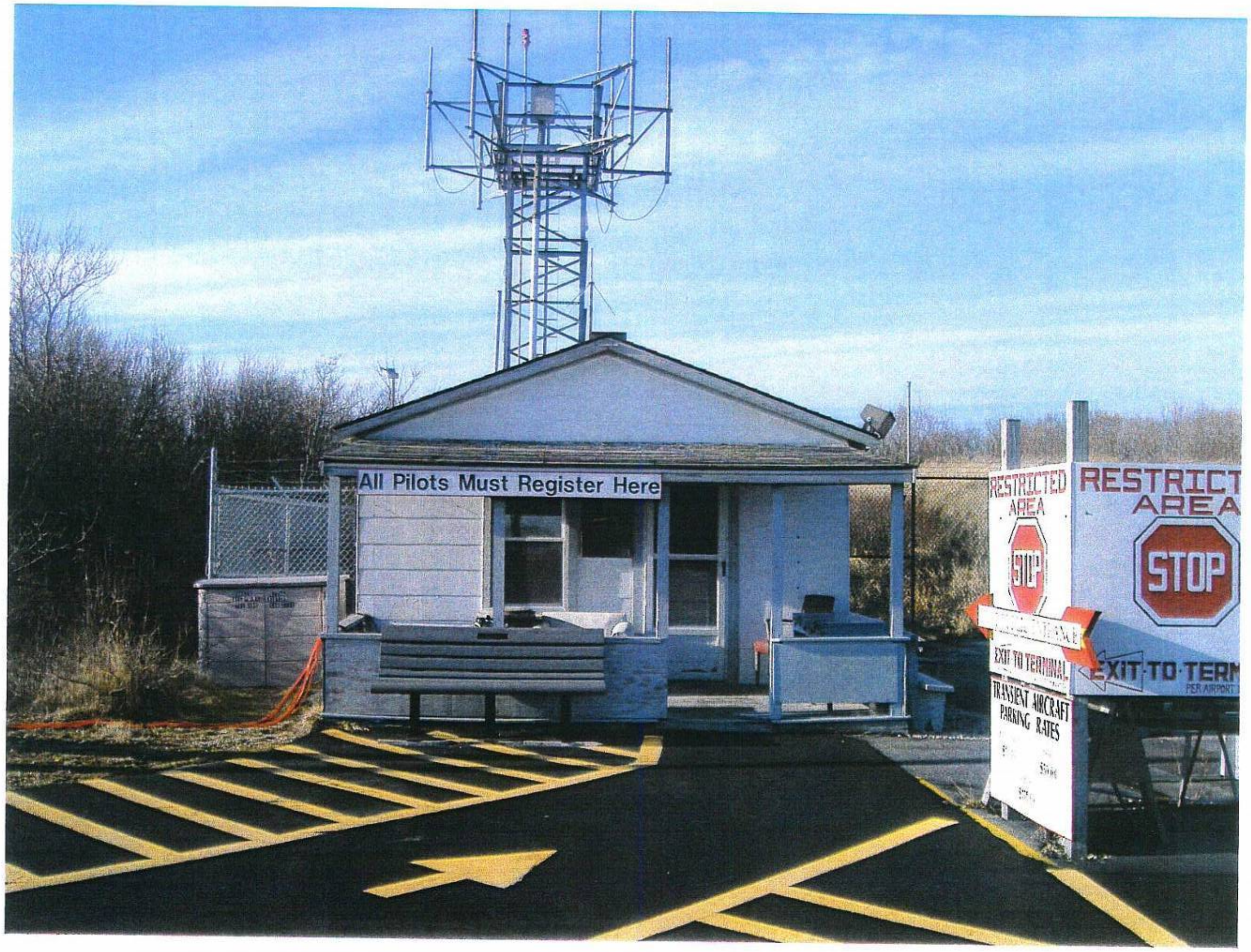
Provincetown Municipal Airport **February 2007 Photographs**


All Pilots Must Register Here
NOTICE
RESTRICTED AREA
STOP
EXIT TO TERMINAL
TRANSIENT AIRCRAFT PARKING RATES

View of front and west side of Sightseeing Shack

Provincetown Municipal Airport

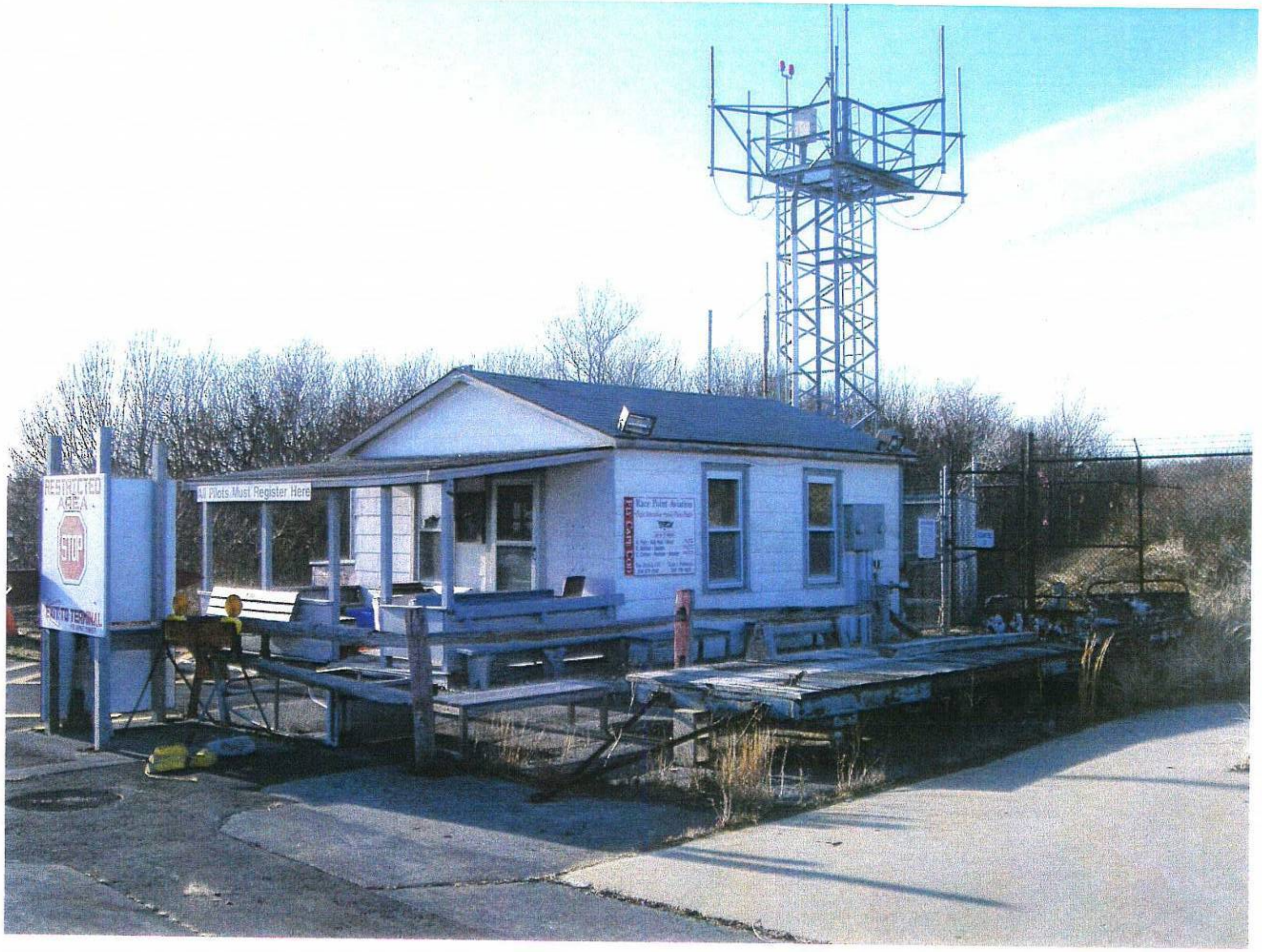
February 2007 Photographs



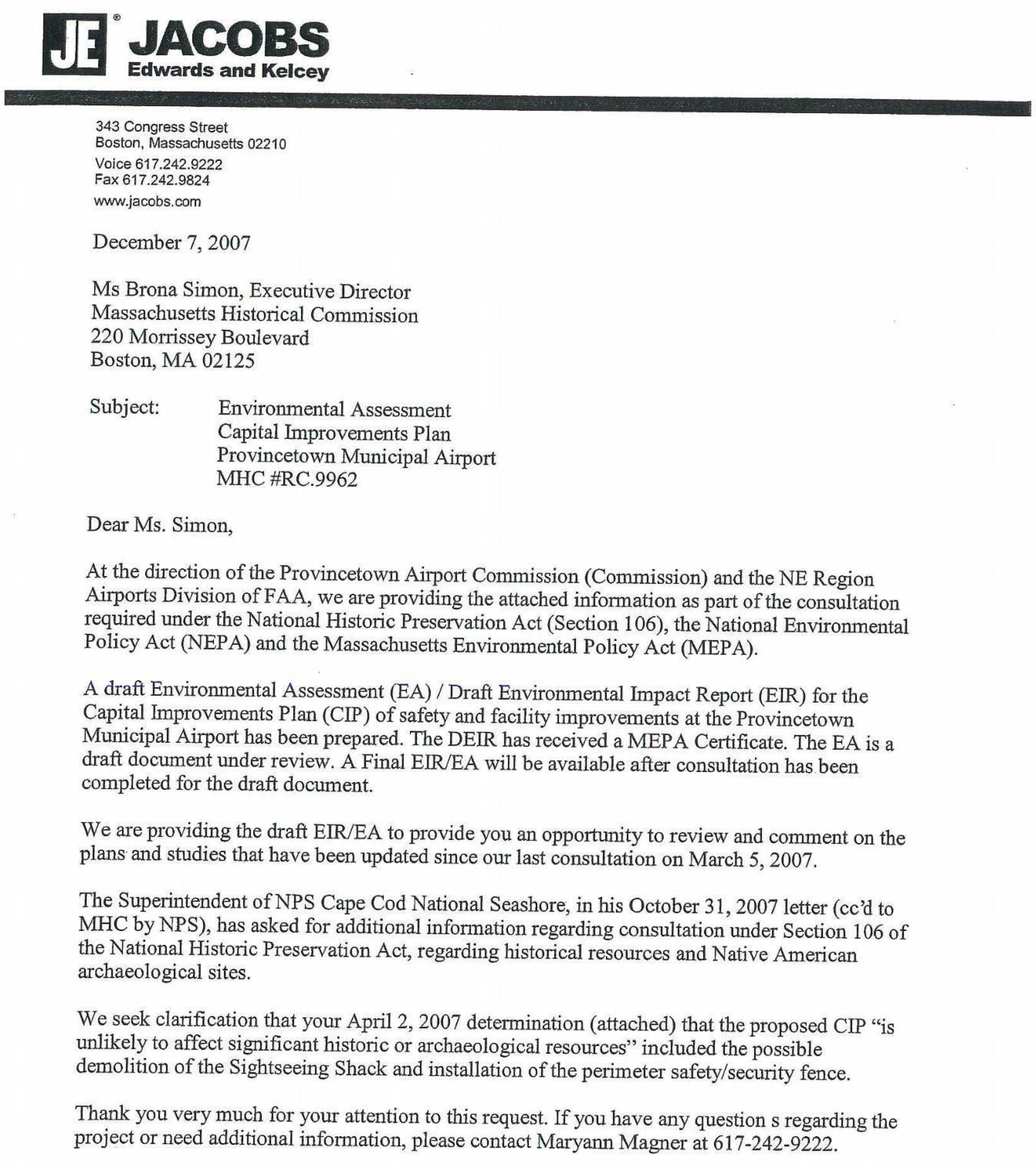
View of front of Sightseeing Shack

Provincetown Municipal Airport

February 2007 Photographs



View of front and east side of Sightseeing Shack



JE® JACOBS
Edwards and Kelcey

343 Congress Street
Boston, Massachusetts 02210
Voice 617.242.9222
Fax 617.242.9824
www.jacobs.com

December 7, 2007

Ms Brona Simon, Executive Director
Massachusetts Historical Commission
220 Morrissey Boulevard
Boston, MA 02125

Subject: Environmental Assessment
Capital Improvements Plan
Provincetown Municipal Airport
MHC #RC.9962

Dear Ms. Simon,

At the direction of the Provincetown Airport Commission (Commission) and the NE Region Airports Division of FAA, we are providing the attached information as part of the consultation required under the National Historic Preservation Act (Section 106), the National Environmental Policy Act (NEPA) and the Massachusetts Environmental Policy Act (MEPA).

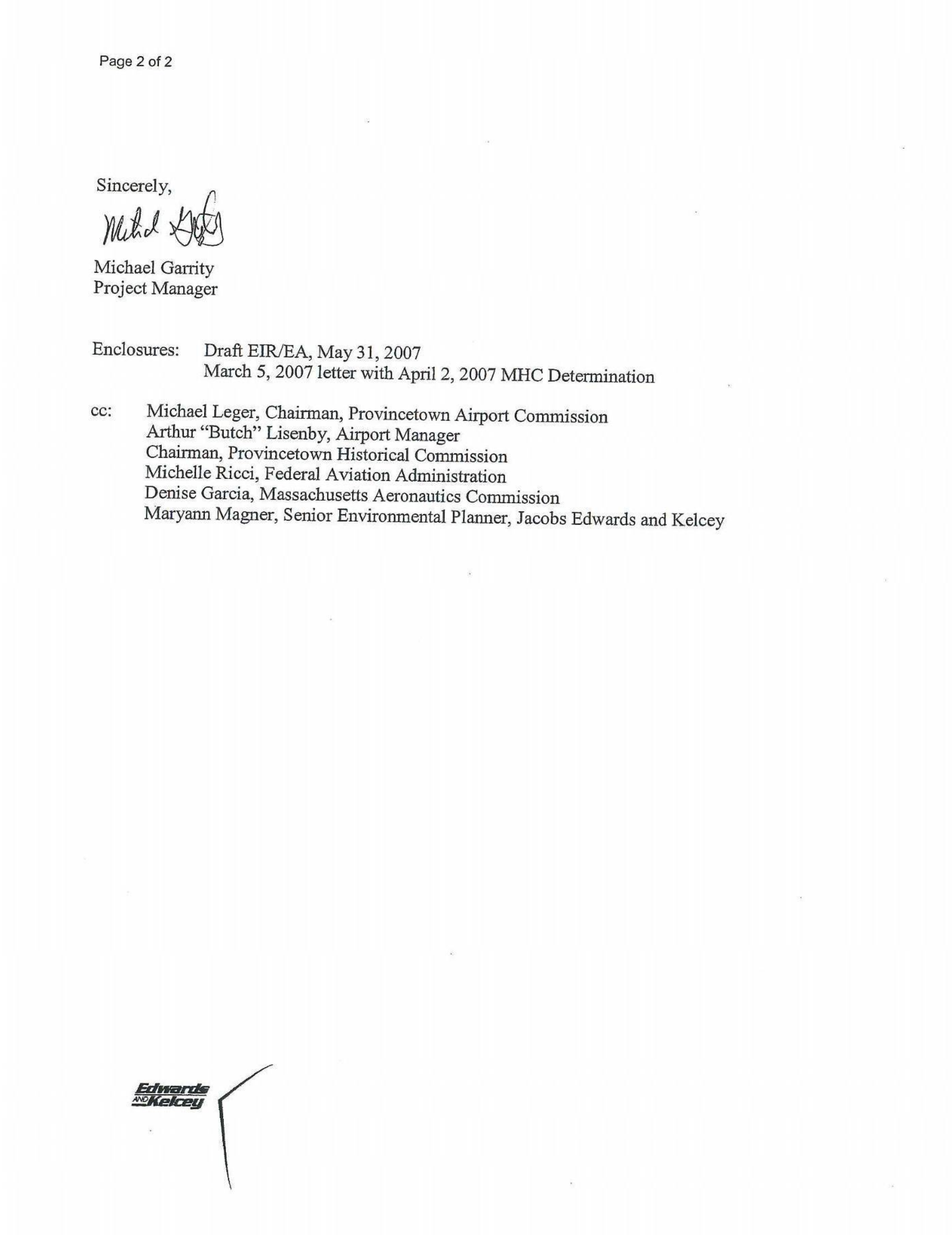
A draft Environmental Assessment (EA) / Draft Environmental Impact Report (EIR) for the Capital Improvements Plan (CIP) of safety and facility improvements at the Provincetown Municipal Airport has been prepared. The DEIR has received a MEPA Certificate. The EA is a draft document under review. A Final EIR/EA will be available after consultation has been completed for the draft document.

We are providing the draft EIR/EA to provide you an opportunity to review and comment on the plans and studies that have been updated since our last consultation on March 5, 2007.

The Superintendent of NPS Cape Cod National Seashore, in his October 31, 2007 letter (cc'd to MHC by NPS), has asked for additional information regarding consultation under Section 106 of the National Historic Preservation Act, regarding historical resources and Native American archaeological sites.

We seek clarification that your April 2, 2007 determination (attached) that the proposed CIP "is unlikely to affect significant historic or archaeological resources" included the possible demolition of the Sightseeing Shack and installation of the perimeter safety/security fence.

Thank you very much for your attention to this request. If you have any question s regarding the project or need additional information, please contact Maryann Magner at 617-242-9222.



Page 2 of 2

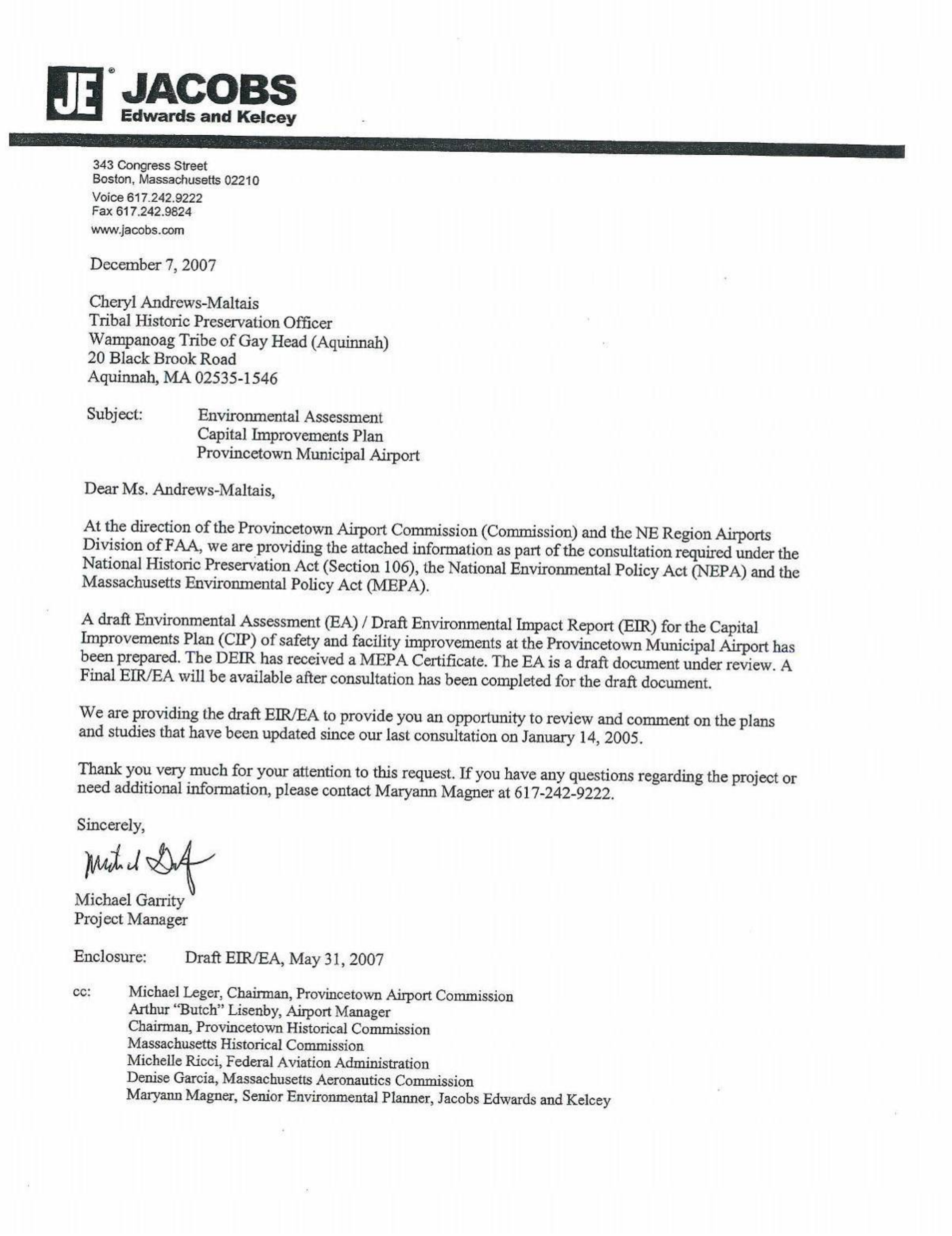
Sincerely,

Michael Garrity
Project Manager

Enclosures: Draft EIR/EA, May 31, 2007
March 5, 2007 letter with April 2, 2007 MHC Determination

cc: Michael Leger, Chairman, Provincetown Airport Commission
Arthur "Butch" Lisenby, Airport Manager
Chairman, Provincetown Historical Commission
Michelle Ricci, Federal Aviation Administration
Denise Garcia, Massachusetts Aeronautics Commission
Maryann Magner, Senior Environmental Planner, Jacobs Edwards and Kelcey

Edwards AND Kelcey



JE JACOBS
Edwards and Kelcey

343 Congress Street
Boston, Massachusetts 02210
Voice 617.242.9222
Fax 617.242.9824
www.jacobs.com

December 7, 2007

Cheryl Andrews-Maltais
Tribal Historic Preservation Officer
Wampanoag Tribe of Gay Head (Aquinnah)
20 Black Brook Road
Aquinnah, MA 02535-1546

Subject: Environmental Assessment
Capital Improvements Plan
Provincetown Municipal Airport

Dear Ms. Andrews-Maltais,

At the direction of the Provincetown Airport Commission (Commission) and the NE Region Airports Division of FAA, we are providing the attached information as part of the consultation required under the National Historic Preservation Act (Section 106), the National Environmental Policy Act (NEPA) and the Massachusetts Environmental Policy Act (MEPA).

A draft Environmental Assessment (EA) / Draft Environmental Impact Report (EIR) for the Capital Improvements Plan (CIP) of safety and facility improvements at the Provincetown Municipal Airport has been prepared. The DEIR has received a MEPA Certificate. The EA is a draft document under review. A Final EIR/EA will be available after consultation has been completed for the draft document.

We are providing the draft EIR/EA to provide you an opportunity to review and comment on the plans and studies that have been updated since our last consultation on January 14, 2005.

Thank you very much for your attention to this request. If you have any questions regarding the project or need additional information, please contact Maryann Magner at 617-242-9222.

Sincerely,

Michael Garrity
Project Manager

Enclosure: Draft EIR/EA, May 31, 2007

cc: Michael Leger, Chairman, Provincetown Airport Commission
Arthur "Butch" Lisenby, Airport Manager
Chairman, Provincetown Historical Commission
Massachusetts Historical Commission
Michelle Ricci, Federal Aviation Administration
Denise Garcia, Massachusetts Aeronautics Commission
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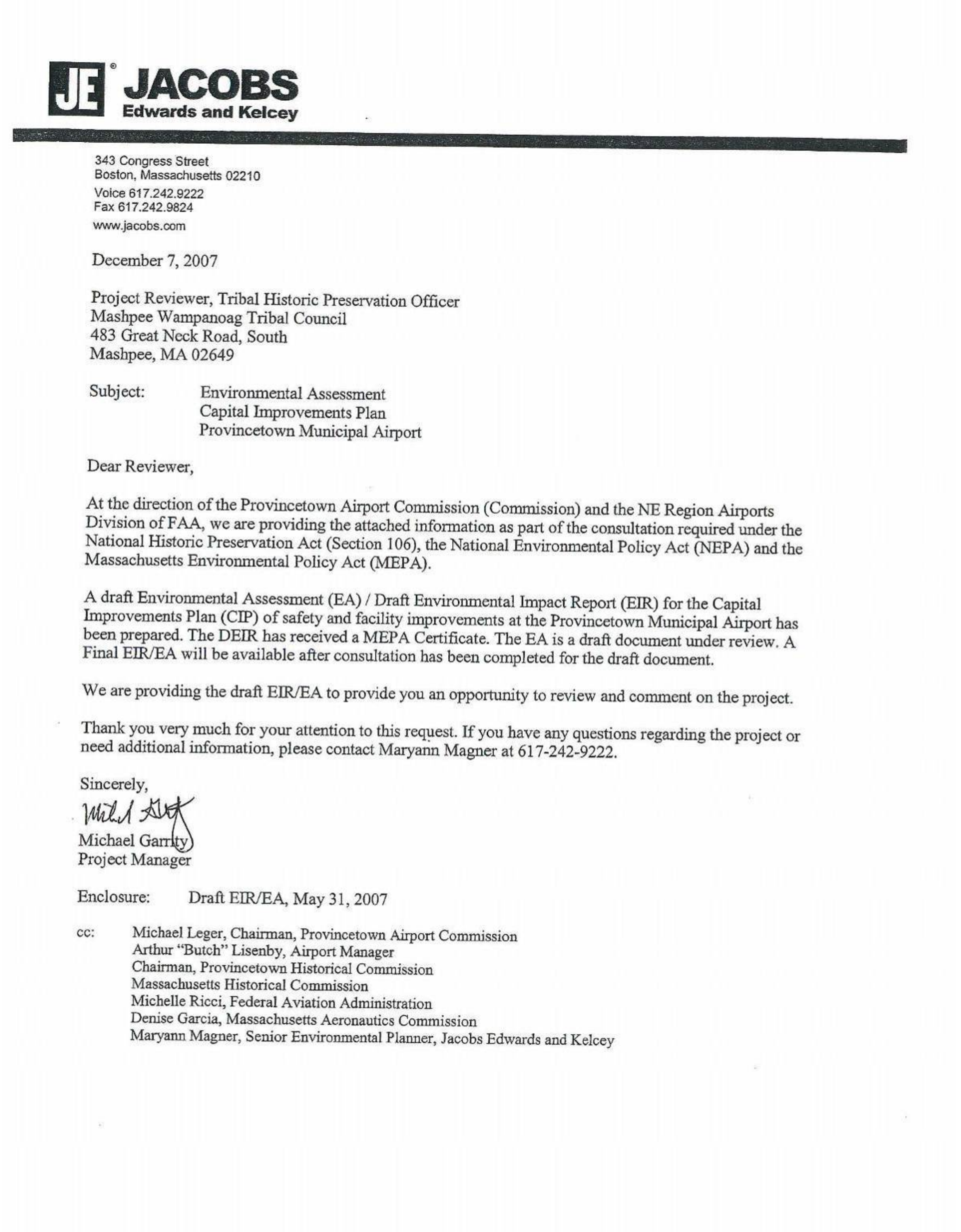

JE JACOBS
Edwards and Kelcey

343 Congress Street
Boston, Massachusetts 02210
Voice 617.242.9222
Fax 617.242.9824
www.jacobs.com

December 7, 2007

Project Reviewer, Tribal Historic Preservation Officer
Mashpee Wampanoag Tribal Council
483 Great Neck Road, South
Mashpee, MA 02649

Subject: Environmental Assessment
Capital Improvements Plan
Provincetown Municipal Airport

Dear Reviewer,

At the direction of the Provincetown Airport Commission (Commission) and the NE Region Airports Division of FAA, we are providing the attached information as part of the consultation required under the National Historic Preservation Act (Section 106), the National Environmental Policy Act (NEPA) and the Massachusetts Environmental Policy Act (MEPA).

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We are providing the draft EIR/EA to provide you an opportunity to review and comment on the project.

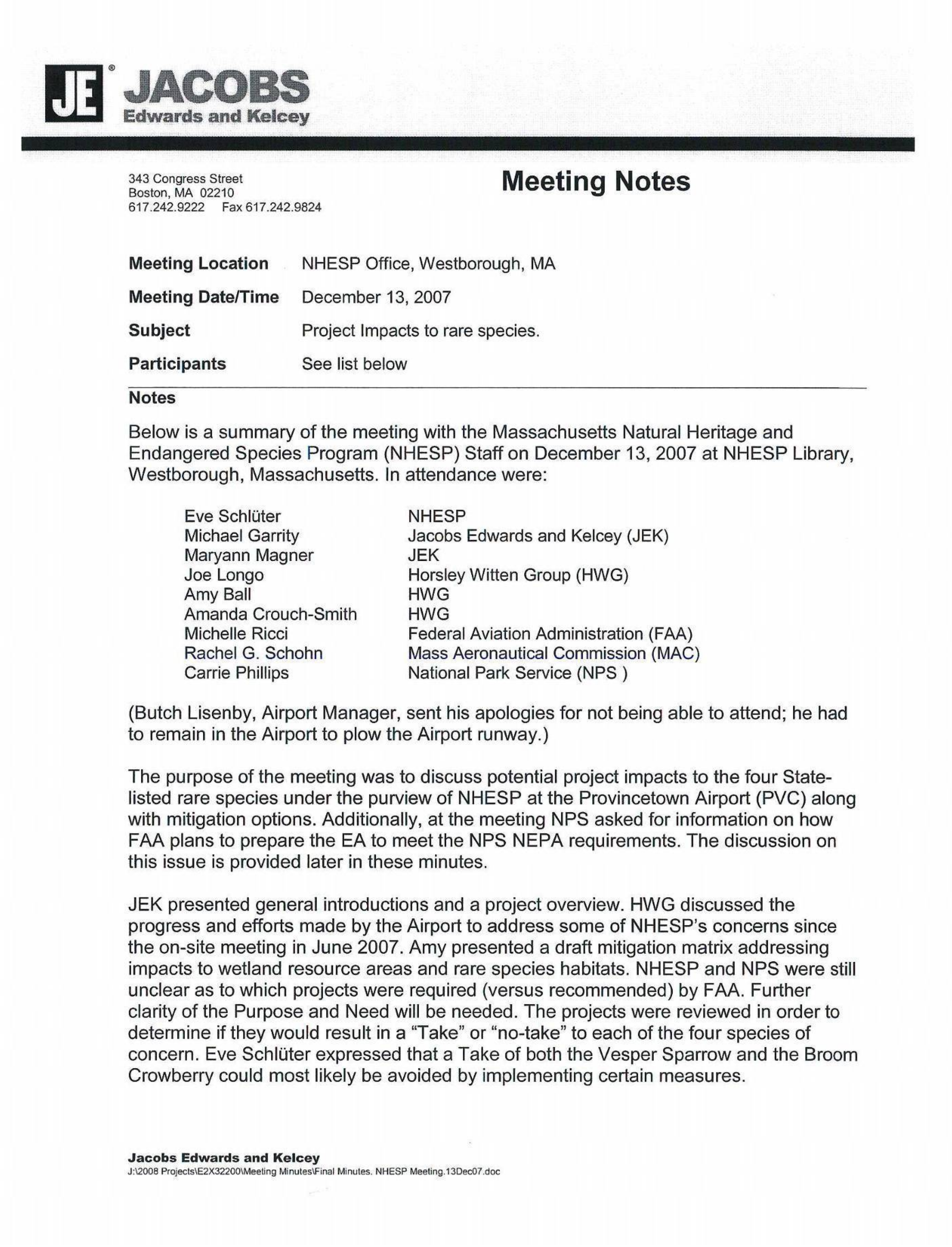
Thank you very much for your attention to this request. If you have any questions regarding the project or need additional information, please contact Maryann Magner at 617-242-9222.

Sincerely,

Michael Garrity
Project Manager

Enclosure: Draft EIR/EA, May 31, 2007

cc: Michael Leger, Chairman, Provincetown Airport Commission
Arthur "Butch" Lisenby, Airport Manager
Chairman, Provincetown Historical Commission
Massachusetts Historical Commission
Michelle Ricci, Federal Aviation Administration
Denise Garcia, Massachusetts Aeronautics Commission
Maryann Magner, Senior Environmental Planner, Jacobs Edwards and Kelcey



JE® JACOBS
Edwards and Kelcey

343 Congress Street
Boston, MA 02210
617.242.9222 Fax 617.242.9824

Meeting Notes

Meeting Location	NHESP Office, Westborough, MA
Meeting Date/Time	December 13, 2007
Subject	Project Impacts to rare species.
Participants	See list below

Notes

Below is a summary of the meeting with the Massachusetts Natural Heritage and Endangered Species Program (NHESP) Staff on December 13, 2007 at NHESP Library, Westborough, Massachusetts. In attendance were:

Eve Schlüter	NHESP
Michael Garrity	Jacobs Edwards and Kelcey (JEK)
Maryann Magner	JEK
Joe Longo	Horsley Witten Group (HWG)
Amy Ball	HWG
Amanda Crouch-Smith	HWG
Michelle Ricci	Federal Aviation Administration (FAA)
Rachel G. Schohn	Mass Aeronautical Commission (MAC)
Carrie Phillips	National Park Service (NPS)

(Butch Lisenby, Airport Manager, sent his apologies for not being able to attend; he had to remain in the Airport to plow the Airport runway.)

The purpose of the meeting was to discuss potential project impacts to the four State-listed rare species under the purview of NHESP at the Provincetown Airport (PVC) along with mitigation options. Additionally, at the meeting NPS asked for information on how FAA plans to prepare the EA to meet the NPS NEPA requirements. The discussion on this issue is provided later in these minutes.

JEK presented general introductions and a project overview. HWG discussed the progress and efforts made by the Airport to address some of NHESP's concerns since the on-site meeting in June 2007. Amy presented a draft mitigation matrix addressing impacts to wetland resource areas and rare species habitats. NHESP and NPS were still unclear as to which projects were required (versus recommended) by FAA. Further clarity of the Purpose and Need will be needed. The projects were reviewed in order to determine if they would result in a "Take" or "no-take" to each of the four species of concern. Eve Schlüter expressed that a Take of both the Vesper Sparrow and the Broom Crowberry could most likely be avoided by implementing certain measures.

Eastern Spadefoot

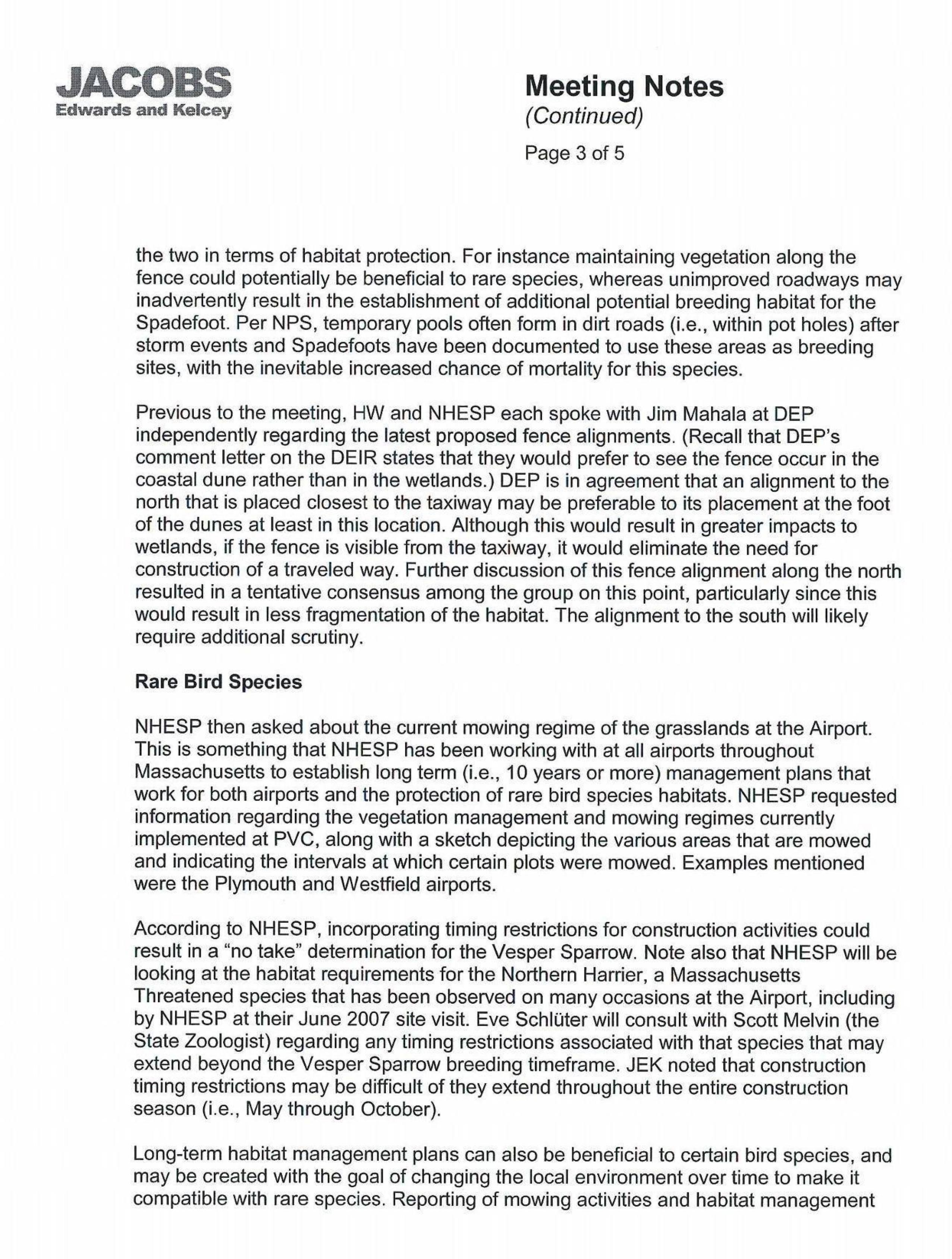
The security/safety fence and its alignment is the project that has generated the most concern with respect to rare species habitat impacts. Eve mentioned that a fence is considered a barrier and she suggested that the fence, regardless of its alignment, might result in a Take of rare species habitat. Since many of the projects will impact isolated wetlands, NHESP made it clear that there was a strong need for additional wildlife surveys, specifically, more detailed identification of Eastern Spadefoot habitat. Eve Schlüter inquired as to whether Brad Timm, a UMass graduate student and Spadefoot expert, had been engaged in the project. (There have been some preliminary discussions, but he has not been formally contacted.) NHESP noted that it would be useful to differentiate prime versus potential Spadefoot breeding habitat and distinguish this from non-breeding habitat. Project siting is also extremely important in avoiding Spadefoot habitat. Carrie Phillips stated that Mr. Timm is currently under contract with the NPS, and expressed concern regarding a conflict of interest if he were to be hired by the Airport to survey the area. Carrie suggested that if the habitat evaluations are conducted as a cooperative effort under the NEPA process for FAA and NPS there might not be a conflict. Bob Cook, also with NPS, could be of assistance in qualifying Eastern Spadefoot breeding habitat.

Eastern Box Turtle

While NHESP recognizes the Airport's efforts to mitigate in part for the Take of the Eastern Box Turtle by constructing gaps along the fence bottom. NHESP stated that smaller wildlife gaps at more frequent intervals are preferable to larger gaps occurring at more distant intervals. However, it was clear that that this provision would not be sufficient to maintain the integrity of the habitat. Among other concerns regarding the fence was the fact that the Airport is located within a dune environment with characteristic shifting sands; the dynamics of sand as a substrate may result in the blocking of wildlife gaps at the bottom of the fence, resulting in a need for an extensive monitoring and maintenance plan.

Construction of the fence may also result in an overall Take of one or more species by pushing the projects over the 5-acre disturbance threshold established by NHESP as a general rule-of-thumb policy (unwritten) for determining a box turtle Take. NHESP also established that a disturbance resulting in less than 30% of an overall species habitat would not be considered a Take.

NHESP requested a more accurate estimate of the amount of disturbance to be created on either side of the fence, as the fence corridor width has not been definitively determined. Project disturbances should be further quantified by specifying whether disturbances are due to the establishment of a traveled way or else an area of maintained vegetation (and to what extent), as there is a significant difference between



JACOBS
Edwards and Kelcey

Meeting Notes
(Continued)
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the two in terms of habitat protection. For instance maintaining vegetation along the fence could potentially be beneficial to rare species, whereas unimproved roadways may inadvertently result in the establishment of additional potential breeding habitat for the Spadefoot. Per NPS, temporary pools often form in dirt roads (i.e., within pot holes) after storm events and Spadefoots have been documented to use these areas as breeding sites, with the inevitable increased chance of mortality for this species.

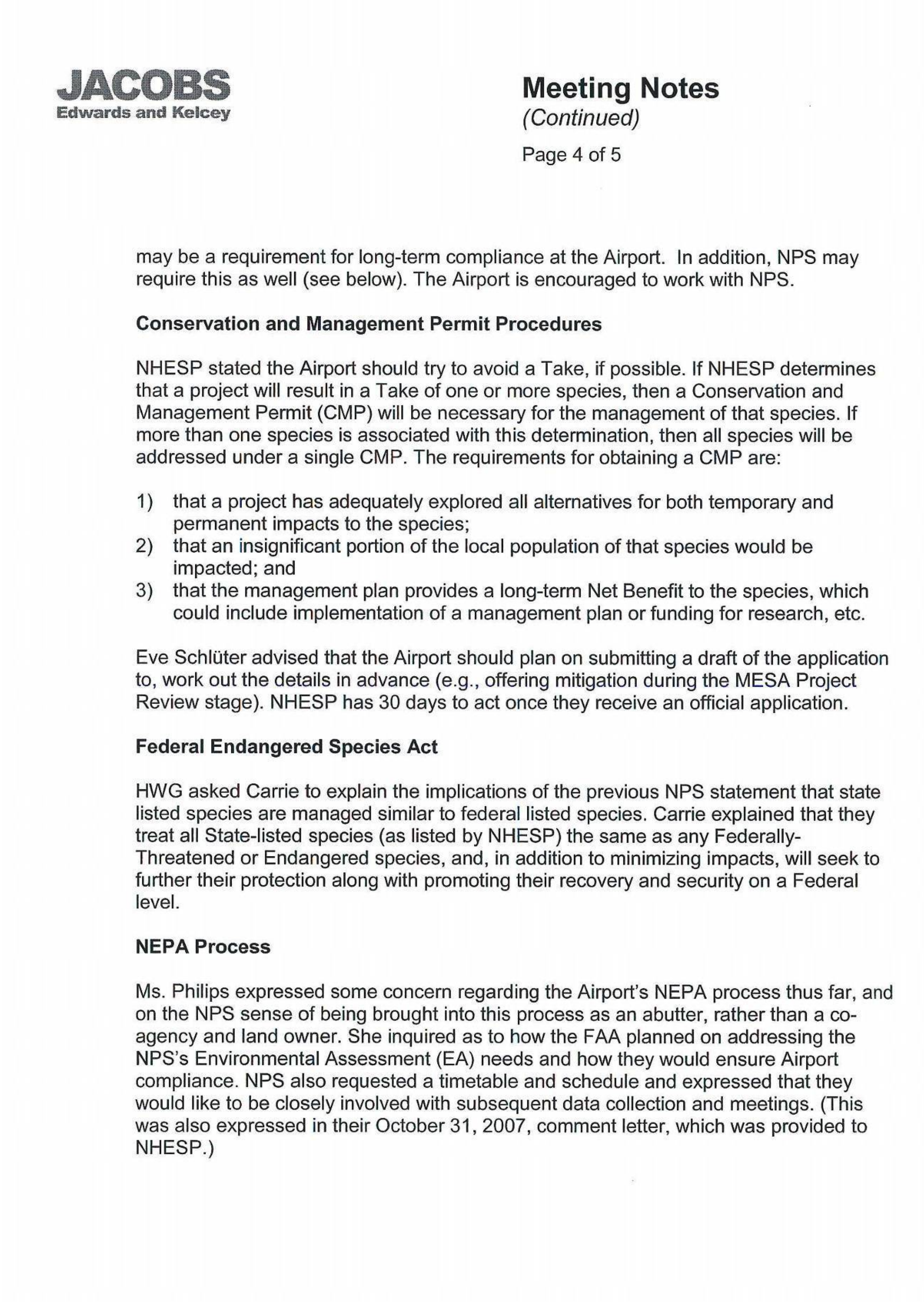
Previous to the meeting, HW and NHESP each spoke with Jim Mahala at DEP independently regarding the latest proposed fence alignments. (Recall that DEP's comment letter on the DEIR states that they would prefer to see the fence occur in the coastal dune rather than in the wetlands.) DEP is in agreement that an alignment to the north that is placed closest to the taxiway may be preferable to its placement at the foot of the dunes at least in this location. Although this would result in greater impacts to wetlands, if the fence is visible from the taxiway, it would eliminate the need for construction of a traveled way. Further discussion of this fence alignment along the north resulted in a tentative consensus among the group on this point, particularly since this would result in less fragmentation of the habitat. The alignment to the south will likely require additional scrutiny.

Rare Bird Species

NHESP then asked about the current mowing regime of the grasslands at the Airport. This is something that NHESP has been working with at all airports throughout Massachusetts to establish long term (i.e., 10 years or more) management plans that work for both airports and the protection of rare bird species habitats. NHESP requested information regarding the vegetation management and mowing regimes currently implemented at PVC, along with a sketch depicting the various areas that are mowed and indicating the intervals at which certain plots were mowed. Examples mentioned were the Plymouth and Westfield airports.

According to NHESP, incorporating timing restrictions for construction activities could result in a "no take" determination for the Vesper Sparrow. Note also that NHESP will be looking at the habitat requirements for the Northern Harrier, a Massachusetts Threatened species that has been observed on many occasions at the Airport, including by NHESP at their June 2007 site visit. Eve Schlüter will consult with Scott Melvin (the State Zoologist) regarding any timing restrictions associated with that species that may extend beyond the Vesper Sparrow breeding timeframe. JEK noted that construction timing restrictions may be difficult of they extend throughout the entire construction season (i.e., May through October).

Long-term habitat management plans can also be beneficial to certain bird species, and may be created with the goal of changing the local environment over time to make it compatible with rare species. Reporting of mowing activities and habitat management



may be a requirement for long-term compliance at the Airport. In addition, NPS may require this as well (see below). The Airport is encouraged to work with NPS.

Conservation and Management Permit Procedures

NHESP stated the Airport should try to avoid a Take, if possible. If NHESP determines that a project will result in a Take of one or more species, then a Conservation and Management Permit (CMP) will be necessary for the management of that species. If more than one species is associated with this determination, then all species will be addressed under a single CMP. The requirements for obtaining a CMP are:

1) that a project has adequately explored all alternatives for both temporary and permanent impacts to the species;
2) that an insignificant portion of the local population of that species would be impacted; and
3) that the management plan provides a long-term Net Benefit to the species, which could include implementation of a management plan or funding for research, etc.

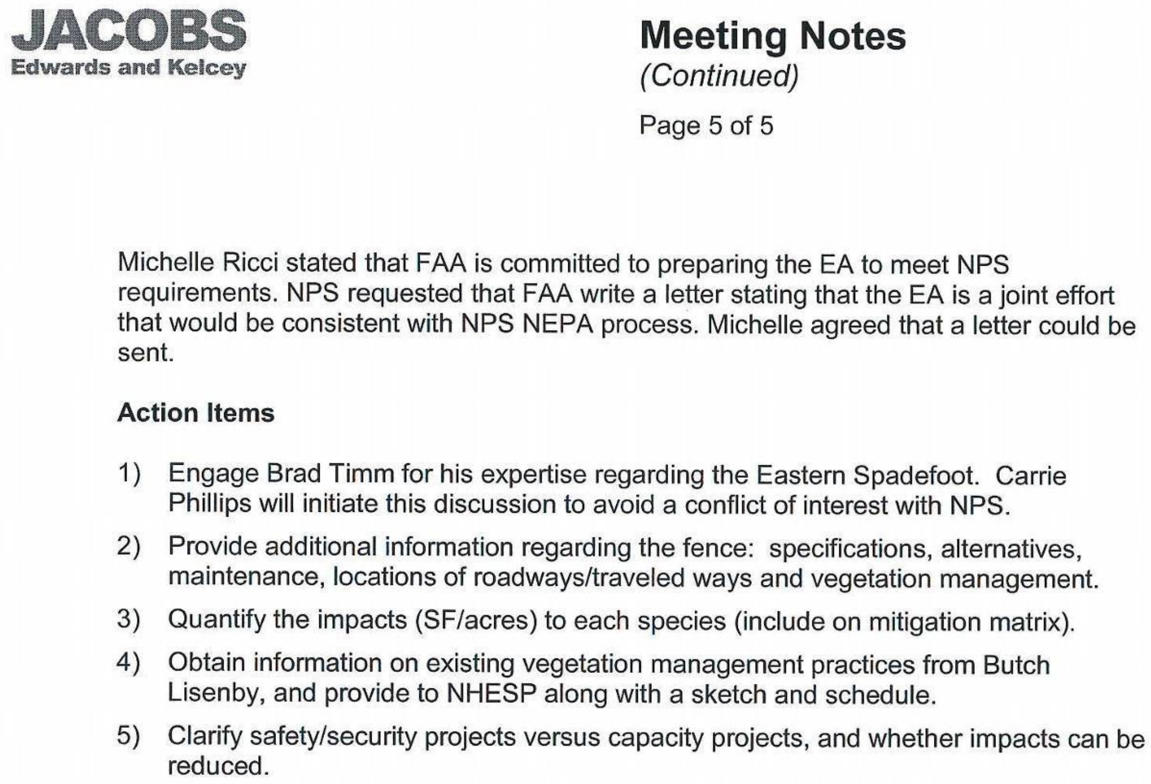
Eve Schlüter advised that the Airport should plan on submitting a draft of the application to, work out the details in advance (e.g., offering mitigation during the MESA Project Review stage). NHESP has 30 days to act once they receive an official application.

Federal Endangered Species Act

HWG asked Carrie to explain the implications of the previous NPS statement that state listed species are managed similar to federal listed species. Carrie explained that they treat all State-listed species (as listed by NHESP) the same as any Federally-Threatened or Endangered species, and, in addition to minimizing impacts, will seek to further their protection along with promoting their recovery and security on a Federal level.

NEPA Process

Ms. Philips expressed some concern regarding the Airport's NEPA process thus far, and on the NPS sense of being brought into this process as an abutter, rather than a co-agency and land owner. She inquired as to how the FAA planned on addressing the NPS's Environmental Assessment (EA) needs and how they would ensure Airport compliance. NPS also requested a timetable and schedule and expressed that they would like to be closely involved with subsequent data collection and meetings. (This was also expressed in their October 31, 2007, comment letter, which was provided to NHESP.)



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Meeting Notes

(Continued)

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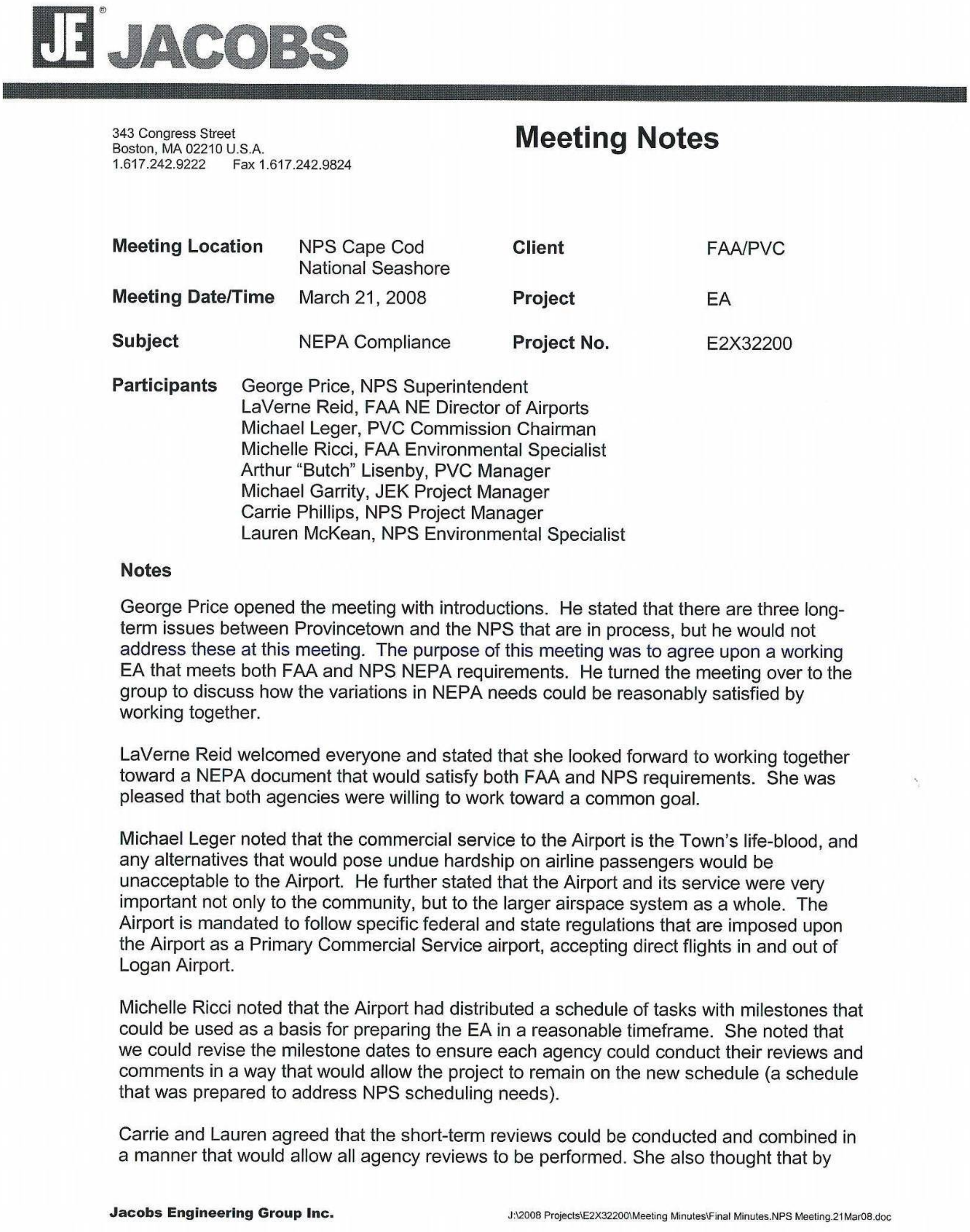
Michelle Ricci stated that FAA is committed to preparing the EA to meet NPS requirements. NPS requested that FAA write a letter stating that the EA is a joint effort that would be consistent with NPS NEPA process. Michelle agreed that a letter could be sent.

Action Items

1) Engage Brad Timm for his expertise regarding the Eastern Spadefoot. Carrie Phillips will initiate this discussion to avoid a conflict of interest with NPS.
2) Provide additional information regarding the fence: specifications, alternatives, maintenance, locations of roadways/traveled ways and vegetation management.
3) Quantify the impacts (SF/acres) to each species (include on mitigation matrix).
4) Obtain information on existing vegetation management practices from Butch Lisenby, and provide to NHESP along with a sketch and schedule.
5) Clarify safety/security projects versus capacity projects, and whether impacts can be reduced.



JE JACOBS

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Meeting Notes

Meeting Location	NPS Cape Cod National Seashore	**Client**	FAA/PVC
Meeting Date/Time	March 21, 2008	**Project**	EA
Subject	NEPA Compliance	**Project No.**	E2X32200

Participants
George Price, NPS Superintendent
LaVerne Reid, FAA NE Director of Airports
Michael Leger, PVC Commission Chairman
Michelle Ricci, FAA Environmental Specialist
Arthur "Butch" Lisenby, PVC Manager
Michael Garrity, JEK Project Manager
Carrie Phillips, NPS Project Manager
Lauren McKean, NPS Environmental Specialist

Notes

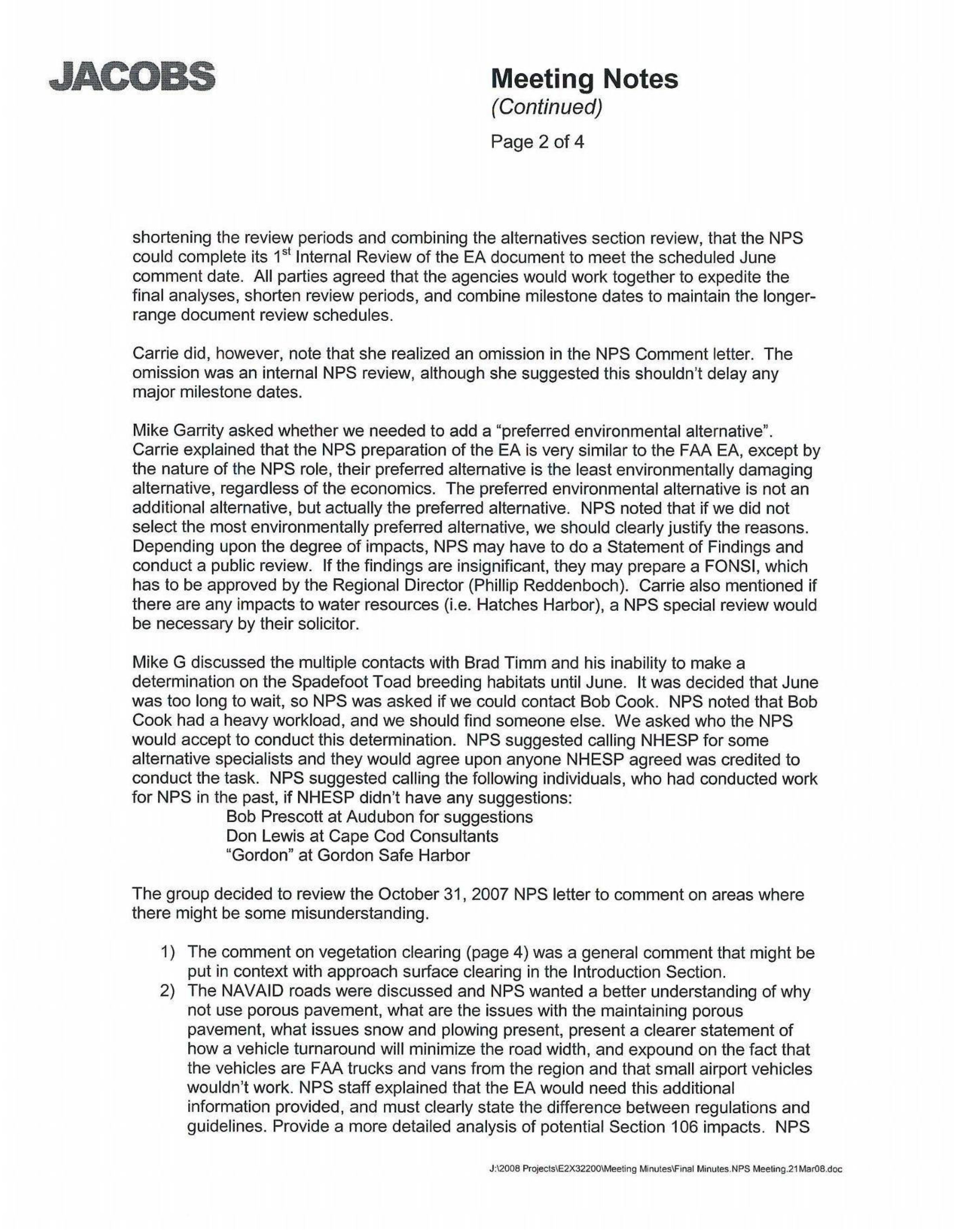
George Price opened the meeting with introductions. He stated that there are three long-term issues between Provincetown and the NPS that are in process, but he would not address these at this meeting. The purpose of this meeting was to agree upon a working EA that meets both FAA and NPS NEPA requirements. He turned the meeting over to the group to discuss how the variations in NEPA needs could be reasonably satisfied by working together.

LaVerne Reid welcomed everyone and stated that she looked forward to working together toward a NEPA document that would satisfy both FAA and NPS requirements. She was pleased that both agencies were willing to work toward a common goal.

Michael Leger noted that the commercial service to the Airport is the Town's life-blood, and any alternatives that would pose undue hardship on airline passengers would be unacceptable to the Airport. He further stated that the Airport and its service were very important not only to the community, but to the larger airspace system as a whole. The Airport is mandated to follow specific federal and state regulations that are imposed upon the Airport as a Primary Commercial Service airport, accepting direct flights in and out of Logan Airport.

Michelle Ricci noted that the Airport had distributed a schedule of tasks with milestones that could be used as a basis for preparing the EA in a reasonable timeframe. She noted that we could revise the milestone dates to ensure each agency could conduct their reviews and comments in a way that would allow the project to remain on the new schedule (a schedule that was prepared to address NPS scheduling needs).

Carrie and Lauren agreed that the short-term reviews could be conducted and combined in a manner that would allow all agency reviews to be performed. She also thought that by



shortening the review periods and combining the alternatives section review, that the NPS could complete its 1st Internal Review of the EA document to meet the scheduled June comment date. All parties agreed that the agencies would work together to expedite the final analyses, shorten review periods, and combine milestone dates to maintain the longer-range document review schedules.

Carrie did, however, note that she realized an omission in the NPS Comment letter. The omission was an internal NPS review, although she suggested this shouldn't delay any major milestone dates.

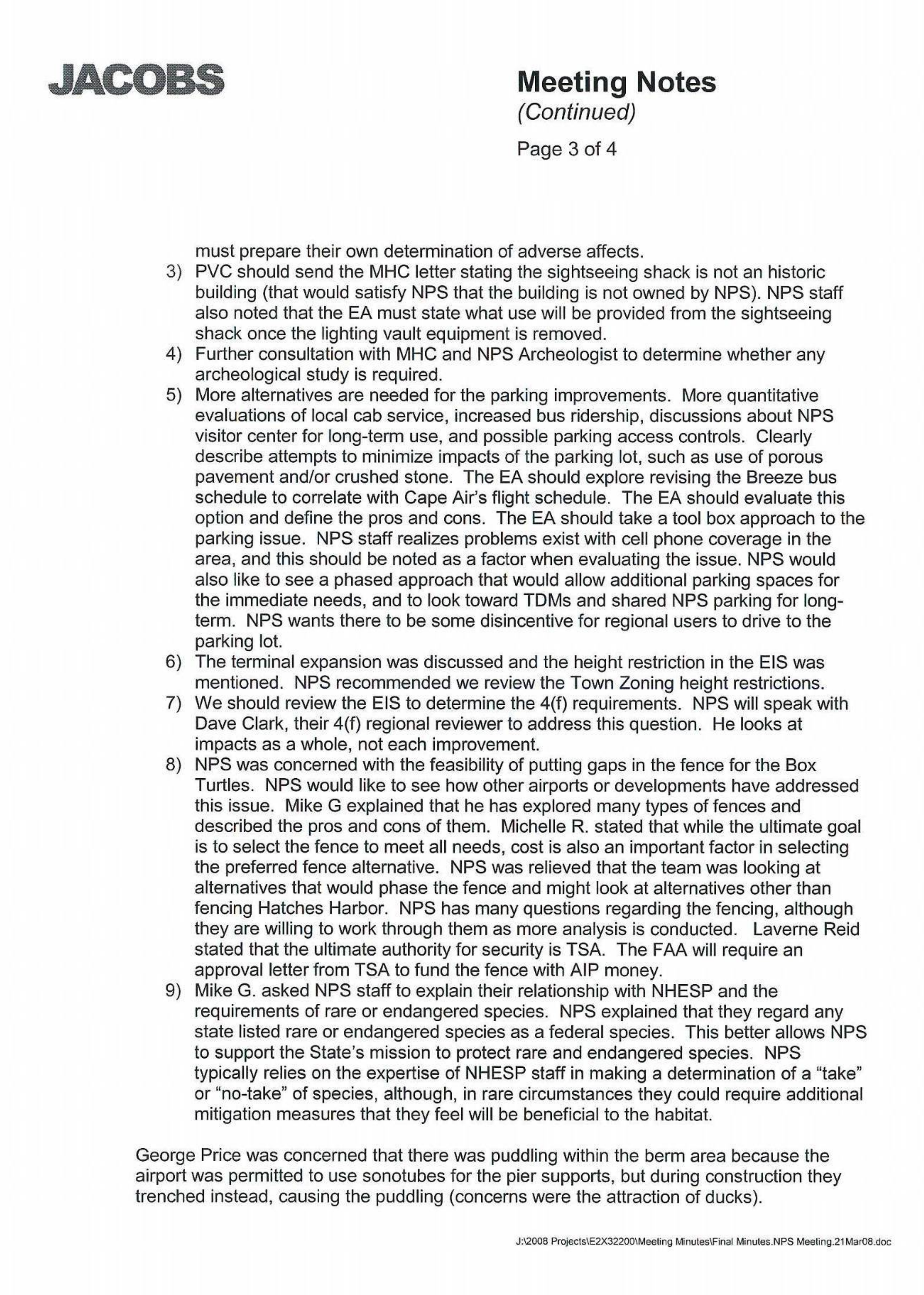
Mike Garrity asked whether we needed to add a "preferred environmental alternative". Carrie explained that the NPS preparation of the EA is very similar to the FAA EA, except by the nature of the NPS role, their preferred alternative is the least environmentally damaging alternative, regardless of the economics. The preferred environmental alternative is not an additional alternative, but actually the preferred alternative. NPS noted that if we did not select the most environmentally preferred alternative, we should clearly justify the reasons. Depending upon the degree of impacts, NPS may have to do a Statement of Findings and conduct a public review. If the findings are insignificant, they may prepare a FONSI, which has to be approved by the Regional Director (Phillip Reddenboch). Carrie also mentioned if there are any impacts to water resources (i.e. Hatches Harbor), a NPS special review would be necessary by their solicitor.

Mike G discussed the multiple contacts with Brad Timm and his inability to make a determination on the Spadefoot Toad breeding habitats until June. It was decided that June was too long to wait, so NPS was asked if we could contact Bob Cook. NPS noted that Bob Cook had a heavy workload, and we should find someone else. We asked who the NPS would accept to conduct this determination. NPS suggested calling NHESP for some alternative specialists and they would agree upon anyone NHESP agreed was credited to conduct the task. NPS suggested calling the following individuals, who had conducted work for NPS in the past, if NHESP didn't have any suggestions:

Bob Prescott at Audubon for suggestions
Don Lewis at Cape Cod Consultants
"Gordon" at Gordon Safe Harbor

The group decided to review the October 31, 2007 NPS letter to comment on areas where there might be some misunderstanding.

1) The comment on vegetation clearing (page 4) was a general comment that might be put in context with approach surface clearing in the Introduction Section.
2) The NAVAID roads were discussed and NPS wanted a better understanding of why not use porous pavement, what are the issues with the maintaining porous pavement, what issues snow and plowing present, present a clearer statement of how a vehicle turnaround will minimize the road width, and expound on the fact that the vehicles are FAA trucks and vans from the region and that small airport vehicles wouldn't work. NPS staff explained that the EA would need this additional information provided, and must clearly state the difference between regulations and guidelines. Provide a more detailed analysis of potential Section 106 impacts. NPS



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must prepare their own determination of adverse affects.

3) PVC should send the MHC letter stating the sightseeing shack is not an historic building (that would satisfy NPS that the building is not owned by NPS). NPS staff also noted that the EA must state what use will be provided from the sightseeing shack once the lighting vault equipment is removed.
4) Further consultation with MHC and NPS Archeologist to determine whether any archeological study is required.
5) More alternatives are needed for the parking improvements. More quantitative evaluations of local cab service, increased bus ridership, discussions about NPS visitor center for long-term use, and possible parking access controls. Clearly describe attempts to minimize impacts of the parking lot, such as use of porous pavement and/or crushed stone. The EA should explore revising the Breeze bus schedule to correlate with Cape Air's flight schedule. The EA should evaluate this option and define the pros and cons. The EA should take a tool box approach to the parking issue. NPS staff realizes problems exist with cell phone coverage in the area, and this should be noted as a factor when evaluating the issue. NPS would also like to see a phased approach that would allow additional parking spaces for the immediate needs, and to look toward TDMs and shared NPS parking for long-term. NPS wants there to be some disincentive for regional users to drive to the parking lot.
6) The terminal expansion was discussed and the height restriction in the EIS was mentioned. NPS recommended we review the Town Zoning height restrictions.
7) We should review the EIS to determine the 4(f) requirements. NPS will speak with Dave Clark, their 4(f) regional reviewer to address this question. He looks at impacts as a whole, not each improvement.
8) NPS was concerned with the feasibility of putting gaps in the fence for the Box Turtles. NPS would like to see how other airports or developments have addressed this issue. Mike G explained that he has explored many types of fences and described the pros and cons of them. Michelle R. stated that while the ultimate goal is to select the fence to meet all needs, cost is also an important factor in selecting the preferred fence alternative. NPS was relieved that the team was looking at alternatives that would phase the fence and might look at alternatives other than fencing Hatches Harbor. NPS has many questions regarding the fencing, although they are willing to work through them as more analysis is conducted. Laverne Reid stated that the ultimate authority for security is TSA. The FAA will require an approval letter from TSA to fund the fence with AIP money.
9) Mike G. asked NPS staff to explain their relationship with NHESP and the requirements of rare or endangered species. NPS explained that they regard any state listed rare or endangered species as a federal species. This better allows NPS to support the State's mission to protect rare and endangered species. NPS typically relies on the expertise of NHESP staff in making a determination of a "take" or "no-take" of species, although, in rare circumstances they could require additional mitigation measures that they feel will be beneficial to the habitat.

George Price was concerned that there was puddling within the berm area because the airport was permitted to use sonotubes for the pier supports, but during construction they trenched instead, causing the puddling (concerns were the attraction of ducks).

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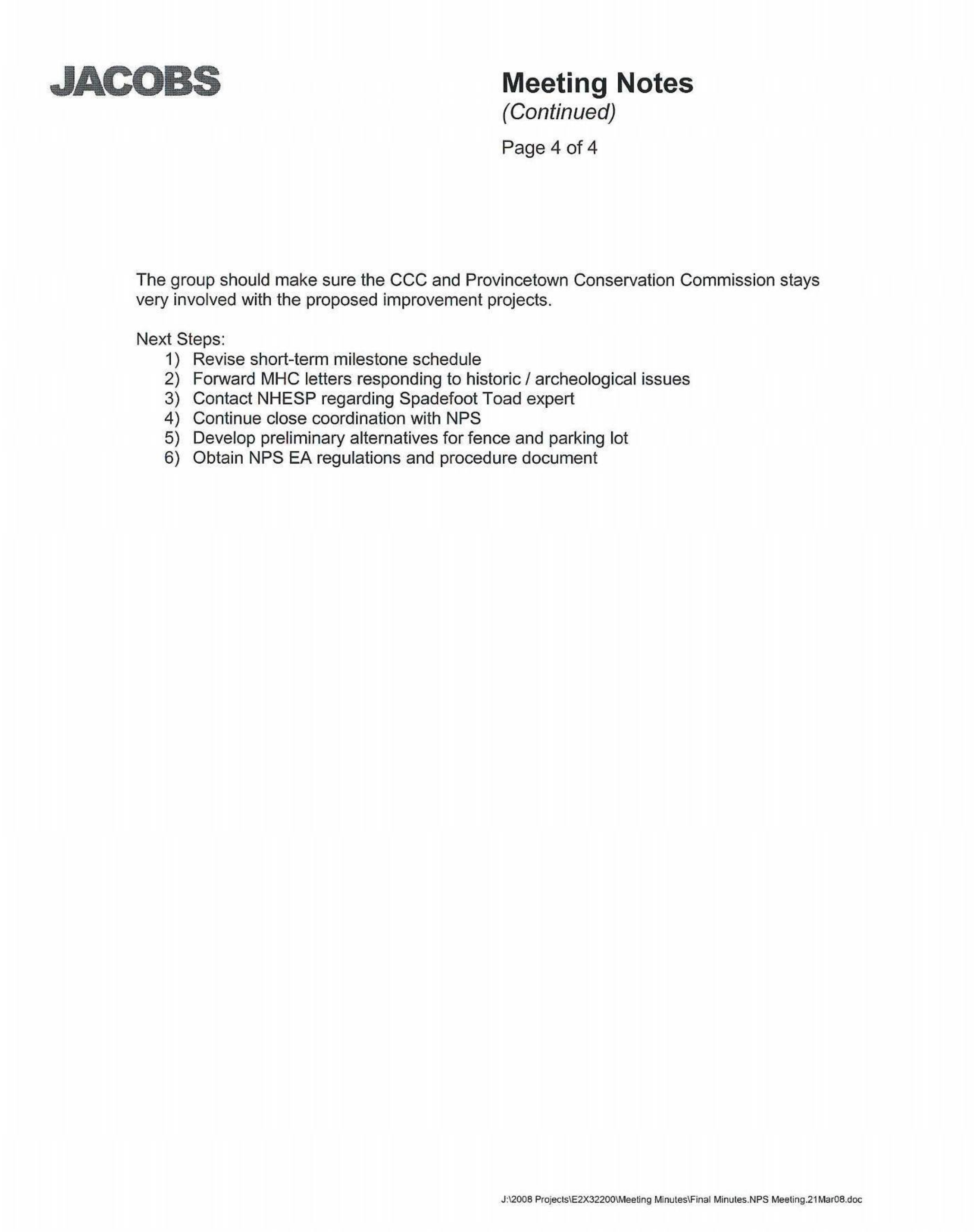

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The group should make sure the CCC and Provincetown Conservation Commission stays very involved with the proposed improvement projects.

Next Steps:

1) Revise short-term milestone schedule
2) Forward MHC letters responding to historic / archeological issues
3) Contact NHESP regarding Spadefoot Toad expert
4) Continue close coordination with NPS
5) Develop preliminary alternatives for fence and parking lot
6) Obtain NPS EA regulations and procedure document

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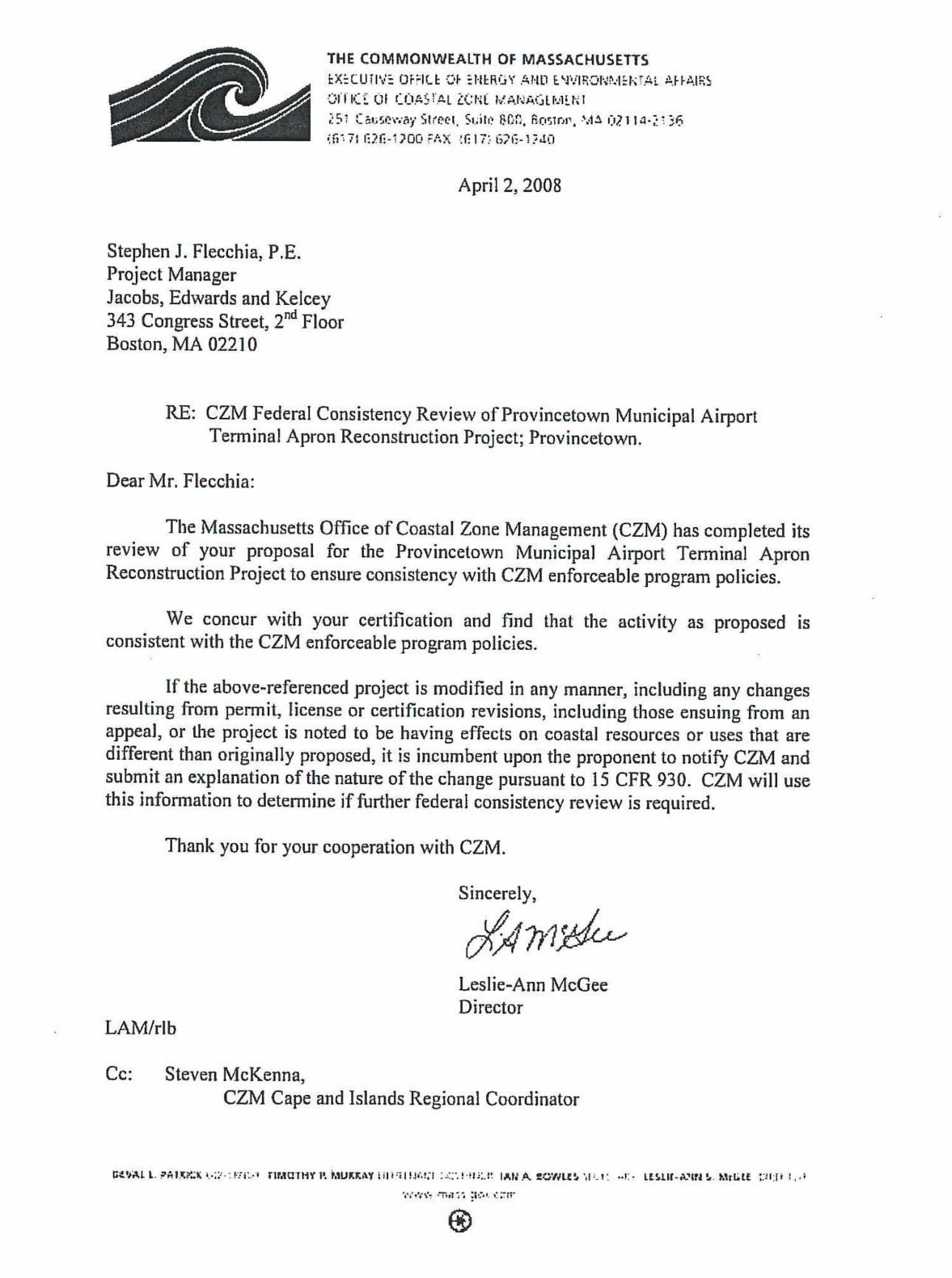


THE COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENERGY AND ENVIRONMENTAL AFFAIRS
OFFICE OF COASTAL ZONE MANAGEMENT
251 Causeway Street, Suite 800, Boston, MA 02114-2136
(617) 626-1200 FAX (617) 626-1240

April 2, 2008

Stephen J. Flecchia, P.E.
Project Manager
Jacobs, Edwards and Kelcey
343 Congress Street, 2nd Floor
Boston, MA 02210

RE: CZM Federal Consistency Review of Provincetown Municipal Airport Terminal Apron Reconstruction Project; Provincetown.

Dear Mr. Flecchia:

The Massachusetts Office of Coastal Zone Management (CZM) has completed its review of your proposal for the Provincetown Municipal Airport Terminal Apron Reconstruction Project to ensure consistency with CZM enforceable program policies.

We concur with your certification and find that the activity as proposed is consistent with the CZM enforceable program policies.

If the above-referenced project is modified in any manner, including any changes resulting from permit, license or certification revisions, including those ensuing from an appeal, or the project is noted to be having effects on coastal resources or uses that are different than originally proposed, it is incumbent upon the proponent to notify CZM and submit an explanation of the nature of the change pursuant to 15 CFR 930. CZM will use this information to determine if further federal consistency review is required.

Thank you for your cooperation with CZM.

Sincerely,

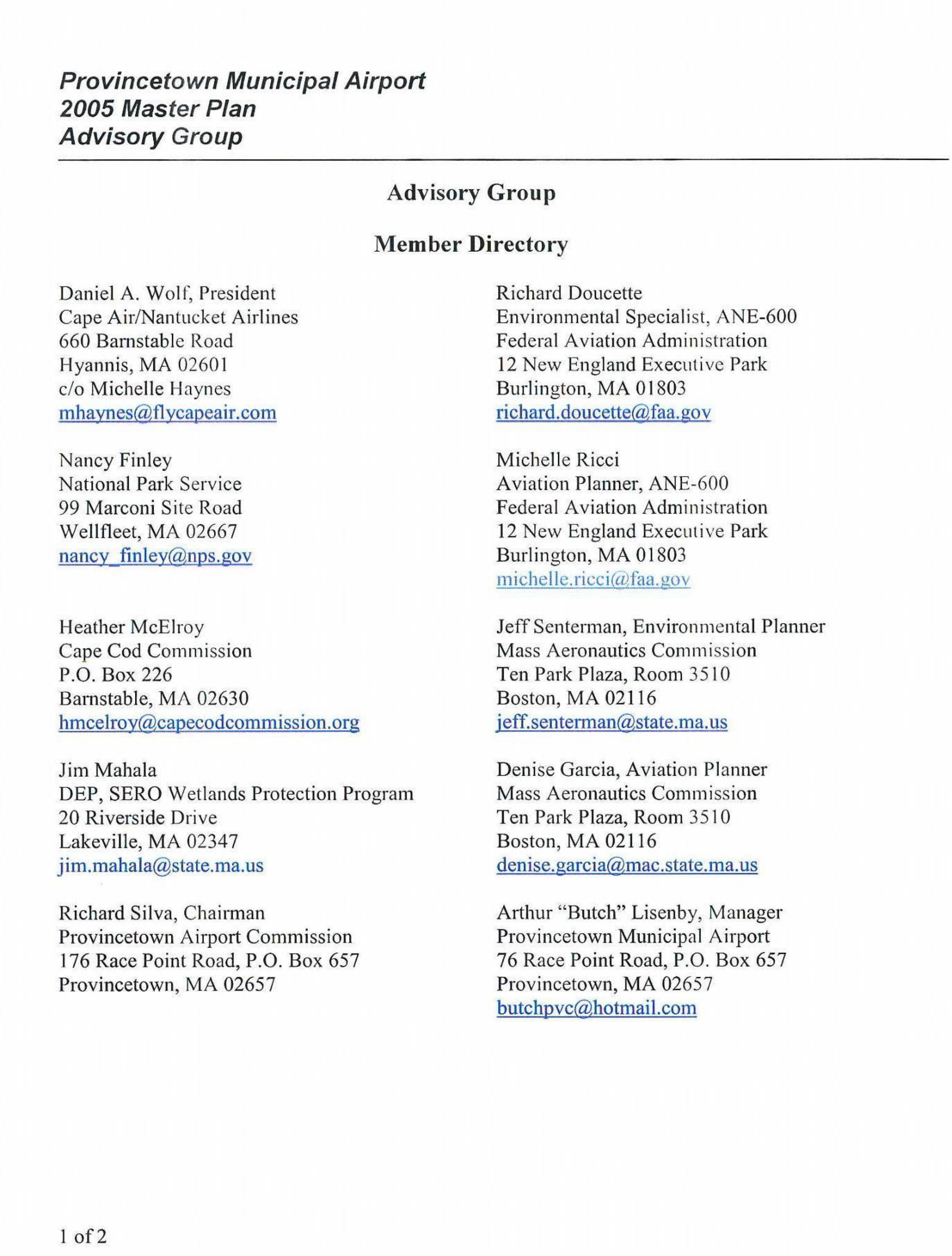
LAMcGee

Leslie-Ann McGee
Director

LAM/rlb

Cc: Steven McKenna,
CZM Cape and Islands Regional Coordinator

DEVAL L. PATRICK [illegible] TIMOTHY P. MURRAY [illegible] IAN A. BOWLES [illegible] LESLIE-ANN S. McGEE [illegible]
[illegible]



Provincetown Municipal Airport
2005 Master Plan
Advisory Group

Advisory Group

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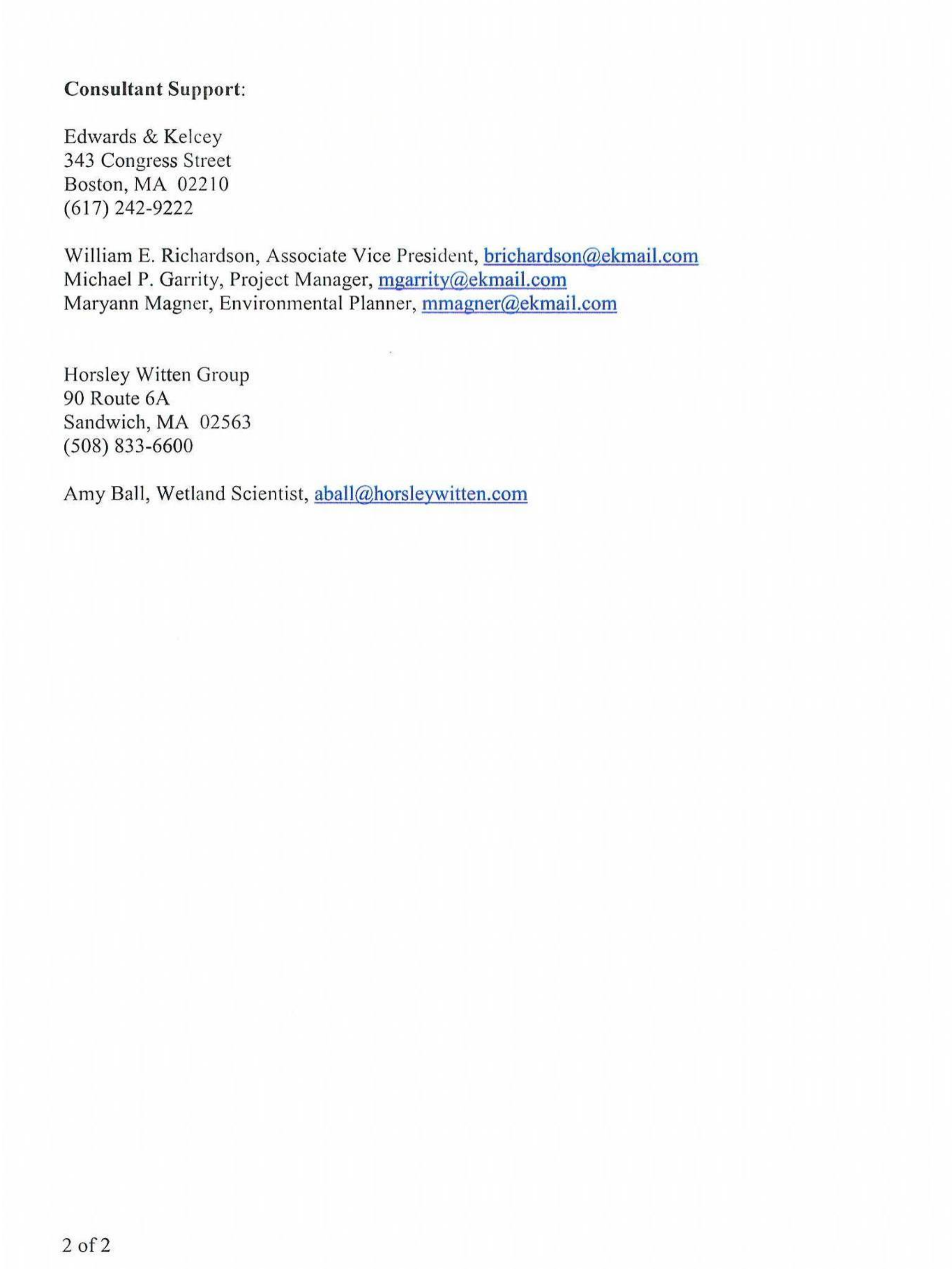

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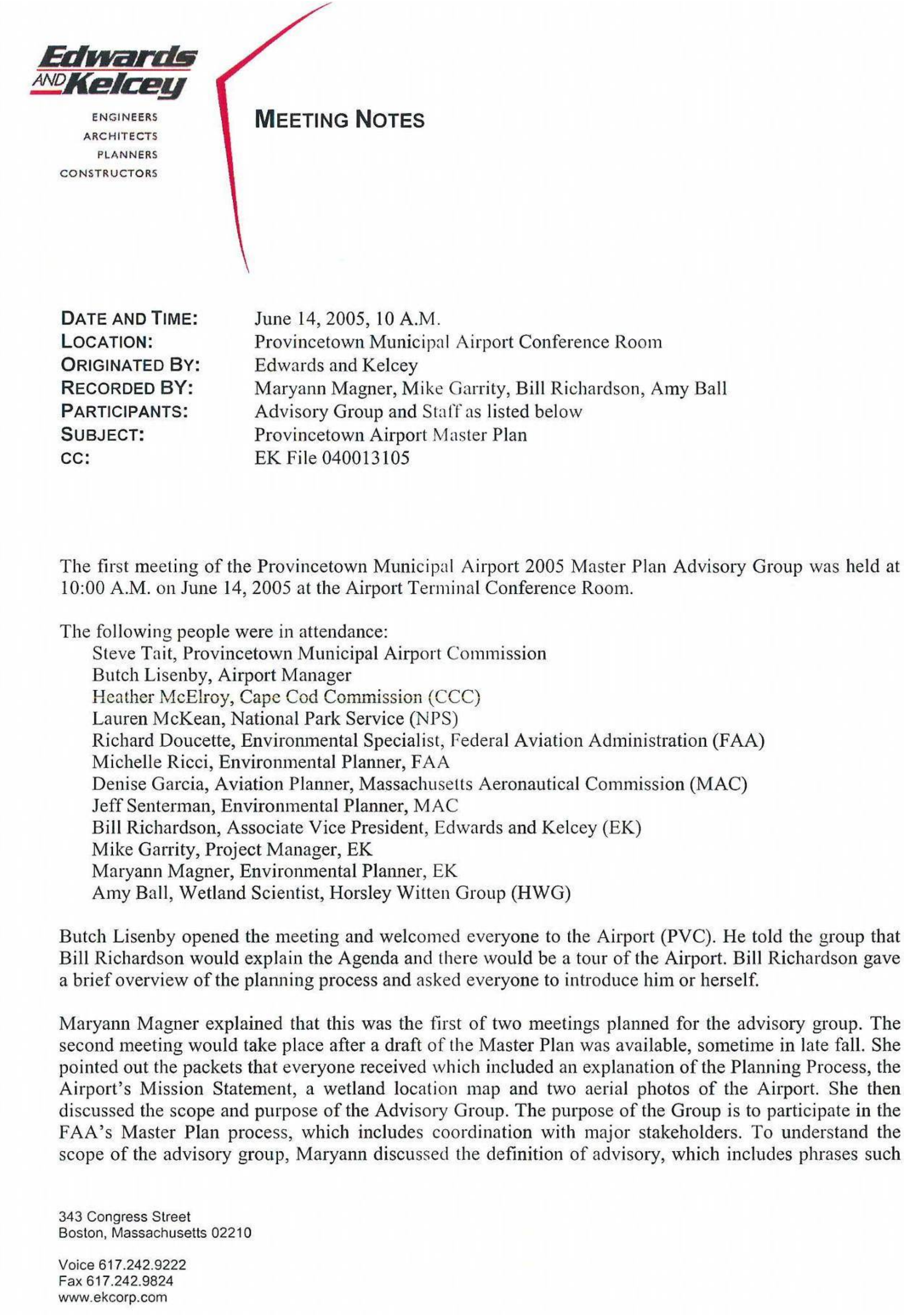

Edwards and Kelcey
ENGINEERS
ARCHITECTS
PLANNERS
CONSTRUCTORS

MEETING NOTES

DATE AND TIME:	June 14, 2005, 10 A.M.
LOCATION:	Provincetown Municipal Airport Conference Room
ORIGINATED BY:	Edwards and Kelcey
RECORDED BY:	Maryann Magner, Mike Garrity, Bill Richardson, Amy Ball
PARTICIPANTS:	Advisory Group and Staff as listed below
SUBJECT:	Provincetown Airport Master Plan
CC:	EK File 040013105

The first meeting of the Provincetown Municipal Airport 2005 Master Plan Advisory Group was held at 10:00 A.M. on June 14, 2005 at the Airport Terminal Conference Room.

The following people were in attendance:

Steve Tait, Provincetown Municipal Airport Commission
Butch Lisenby, Airport Manager
Heather McElroy, Cape Cod Commission (CCC)
Lauren McKean, National Park Service (NPS)
Richard Doucette, Environmental Specialist, Federal Aviation Administration (FAA)
Michelle Ricci, Environmental Planner, FAA
Denise Garcia, Aviation Planner, Massachusetts Aeronautical Commission (MAC)
Jeff Senterman, Environmental Planner, MAC
Bill Richardson, Associate Vice President, Edwards and Kelcey (EK)
Mike Garrity, Project Manager, EK
Maryann Magner, Environmental Planner, EK
Amy Ball, Wetland Scientist, Horsley Witten Group (HWG)

Butch Lisenby opened the meeting and welcomed everyone to the Airport (PVC). He told the group that Bill Richardson would explain the Agenda and there would be a tour of the Airport. Bill Richardson gave a brief overview of the planning process and asked everyone to introduce him or herself.

Maryann Magner explained that this was the first of two meetings planned for the advisory group. The second meeting would take place after a draft of the Master Plan was available, sometime in late fall. She pointed out the packets that everyone received which included an explanation of the Planning Process, the Airport's Mission Statement, a wetland location map and two aerial photos of the Airport. She then discussed the scope and purpose of the Advisory Group. The purpose of the Group is to participate in the FAA's Master Plan process, which includes coordination with major stakeholders. To understand the scope of the advisory group, Maryann discussed the definition of advisory, which includes phrases such

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as "to council, to caution, to inform, and to recommend." She explained that the airport and consultant staff was there today to give the Group some background information, but more importantly they were there to listen to the group members' perspectives, questions, and suggestions. The objective was not to reach consensus but to fully inform the master planning process.

Richard Doucette suggested that we put the lease line on the aerial photos and asked for a brief list of improvements completed since the last Environmental Impact Statement (EIS). The list included reconstruction of the runway with the shift to provide for runway safety areas, aircraft tiedowns, relocating NAVAIDS, upgrading visual aids, and installing limited sections of security fence.

Richard asked for the number annual of operations and enplanements. Butch stated that the Airport has greater than 100,000 operations, a relatively high number compared to the number of enplanements (12,000 passengers). He explained that the number of operations relates to the fact that PVC is used for training because it is one of the few small airports with an ILS system. Mike Garrity pointed out that over 24% of the annual enplanements occur during the peak summer month of August. Denise Garcia suggested that it is important to factor in and discuss the seasonality when doing forecasts for the Master Plan.

Lauren McLean asked the number of staff for TSA at the Airport. Butch said between 3 and 7 depending on the season. She also asked about automobile parking needs. If the Airport expands the parking area they should consider visibility issues and alternatives such as use of the Breeze bus service. Would it be possible to use berms to screen the view of the parking lot? She asked if there would be data on how many people use the Breeze shuttle for transportation to and from the Airport, suggesting that existing traffic and passenger counts from the Breeze shuttle bus and the National Park Service might provide useful information. She noted that although the NPS beachfront parking lot is full early morning during the summer season, the visitor's center NPS parking lot is typically only ¼ full during the summer season. Mike Garrity said we would get information from Breeze for shuttle usage.

Lauren also asked about the master plan process versus an EIS process. She reminded everyone of the agreement regarding an EIS and any proposal to expand the runway. She noted that a runway extension was included in the list of potential master plan projects. Lauren asked whether an alternatives analysis and discussion of potential impacts would be included in the Master Plan. The staff of FAA and MAC pointed out that the impact analysis would be part of the environmental document (probably an Environmental Assessment and not likely to be an EIS) that would be prepared after the master plan. Lauren suggested that the impacts should be considered during the master plan rather than later. Richard said that since the FAA Master Plan process predates the National Environmental Policy Act (NEPA), master plans could vary between being distinct from the environmental documents or somewhat merged. He suggested that in the case of PVC it will be somewhat merged. Richard also indicated that airports are not federal facilities and an airport master plan is not technically a federal document subject to NEPA. The FAA participates in the master planning process, but it is driven by the local airport authority. The FAA may require an EA or EIS as a follow-on to the master plan, since the construction of airport improvements is subject to NEPA. All parties realize that no federal decision can be made prior to NEPA compliance. Jeff Senterman pointed out that an ENF would be prepared for the projects and MEPA would review them. Maryann said that an alternatives analysis would be included in the Master Plan along with some discussion of potential environmental impacts.

Mike Garrity gave an overview of the existing facilities at the Airport. Using the aerial photo as a reference he indicated the buildings and other elements of the airport. He gave a brief overview of some of the issues that may influence potential future projects:

1. The taxiway centerline shifts twenty feet in a jog to the north along its westerly end, causing a safety problem for pilots taxiing in the dark or reduced visibility (foggy conditions). Pilots can run their airplanes off the edge of the pavement, or miss the turn and become disoriented with the non-standard condition. Providing a standard, straight centerline will enhance operational safety, especially in reduced visibility conditions, and at night.
2. The issues associated with the terminal building congestion and the minimal space available for passenger waiting areas and day-to-day operational space.
3. The issues associated with the increasingly congested automobile parking lot and possible alternatives to redesign existing parking and minimal expansion that would satisfy existing needs while minimizing environmental impacts.
4. The issues affecting security standards at the airport and the need for security perimeter fencing to comply with TSA requirements and to minimize potential life-threatening hazards of people and animals inadvertently approaching the aircraft operating area.

Butch Lisenby then led the group on a tour of the Airport. The group viewed the passenger parking area, the terminal area, the sightseeing shack, the aircraft parking areas, the taxiways, runways, the approach light pier, as well as a majority of the NAVAIDS. The group noted that wetland vegetation has reestablished in the area of the ILS footbridge. Questions regarding the location of the security fence and the possible visual impacts and effect on wildlife movements were part of the discussion. A question was asked about why the access road to the FAA NAVAIDS must be paved. It was explained that a gravel road has the potential to bring stones onto the runway and cause substantial damage to the aircraft. Plowing is also an issue in the winter.

During the tour Amy Ball of HWG rode with agency staff to discuss the rare species surveys in accordance with Natural Heritage protocols for 4 state-listed species: Vesper Sparrow, Eastern Spadefoot [toad], Eastern Box Turtle, and Broom Crowberry. She noted that they had found only a broom crowberry population (and pointed it out as they drove past), and had not documented the other species as of yet. Lauren (NPS) volunteered that the NPS had some additional natural resources data from past field studies throughout the National Seashore property that she was willing to share with us.

Heather McElroy from the Cape Cod Commission (CCC) asked how often mowing occurred. Butch responded 2 to 3-4 times per year as needed, usually before Memorial Day, before July 4th and sometimes before Labor Day. Heather had asked whether this was a safety issue or also, given the timing, for aesthetic reasons. Butch responded that it was "both", particularly for safety around the lights.

Lauren McKean from the NPS encouraged everyone to go check out the view from the observation tower at the visitor center located to the southeast of the airport, pointing out that there was a good opportunity to see the airport from that vantage point.

Heather asked about the pavement area perpendicular to the runway/taxiway near the terminal/runway 25 end - why it was much wider at that point. Butch responded that there was the need for passage by 2 planes in this particular area - it was where planes conduct a pre-takeoff instrument check, while another plane may need to get by.

After the tour the group met in the conference to wrap up and answer questions. On the issue of the security fence Butch mentioned that hikers, hunters and horseback riders often wander on to the runway thinking it is a road. Since the airport has passenger-carrying commercial flights connecting with Boston's Logan International Airport, security requirements are stricter than at general aviation airports. Richard Doucette asked if the sightseeing shack would be considered historical since it is part of the original building for the Airport. Maryann said they would send photos to Mass Historical Commission and ask for an advisory opinion. Both advisory group participants of CCC and NPS said that their agency staff would be available to answer questions and meet for any pre-application and/or informal information gathering meetings.

Heather McElroy stated that any project element should be designed to minimize impacts on natural resources (consenting that the cumulative project elements would likely impact wetlands and their buffer zones) and that the cumulative projects, if reviewed under a Development of Regional Impact (DRI) filing (i.e., if scoped through MEPA to an EIR), would have to meet the performance standards in the Regional Policy Plan (RPP). She said that there was the potential for a pre-application meeting with the CCC, and that they encourage applicants to do this. She also noted that there might be some transportation concerns. She did say that the CCC would be commenting on any ENF filing anyway (they are on the list of recipients).

All agreed that early and ongoing coordination would take place throughout the planning process.

The meeting was adjoined at noon.

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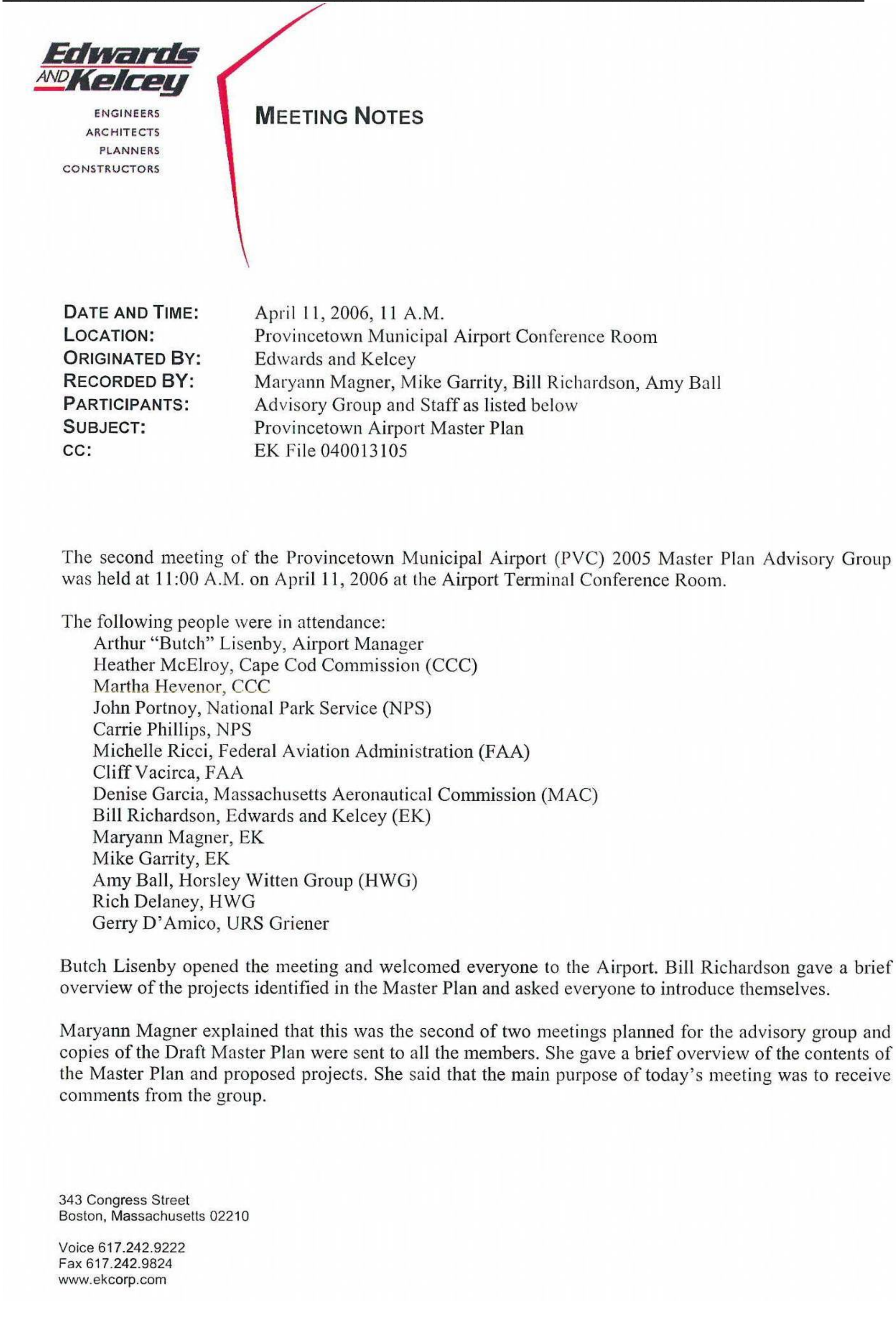

Edwards AND Kelcey
ENGINEERS
ARCHITECTS
PLANNERS
CONSTRUCTORS

MEETING NOTES

DATE AND TIME: April 11, 2006, 11 A.M.
LOCATION: Provincetown Municipal Airport Conference Room
ORIGINATED BY: Edwards and Kelcey
RECORDED BY: Maryann Magner, Mike Garrity, Bill Richardson, Amy Ball
PARTICIPANTS: Advisory Group and Staff as listed below
SUBJECT: Provincetown Airport Master Plan
CC: EK File 040013105

The second meeting of the Provincetown Municipal Airport (PVC) 2005 Master Plan Advisory Group was held at 11:00 A.M. on April 11, 2006 at the Airport Terminal Conference Room.

The following people were in attendance:
Arthur "Butch" Lisenby, Airport Manager
Heather McElroy, Cape Cod Commission (CCC)
Martha Hevenor, CCC
John Portnoy, National Park Service (NPS)
Carrie Phillips, NPS
Michelle Ricci, Federal Aviation Administration (FAA)
Cliff Vacirca, FAA
Denise Garcia, Massachusetts Aeronautical Commission (MAC)
Bill Richardson, Edwards and Kelcey (EK)
Maryann Magner, EK
Mike Garrity, EK
Amy Ball, Horsley Witten Group (HWG)
Rich Delaney, HWG
Gerry D'Amico, URS Griener

Butch Lisenby opened the meeting and welcomed everyone to the Airport. Bill Richardson gave a brief overview of the projects identified in the Master Plan and asked everyone to introduce themselves.

Maryann Magner explained that this was the second of two meetings planned for the advisory group and copies of the Draft Master Plan were sent to all the members. She gave a brief overview of the contents of the Master Plan and proposed projects. She said that the main purpose of today's meeting was to receive comments from the group.

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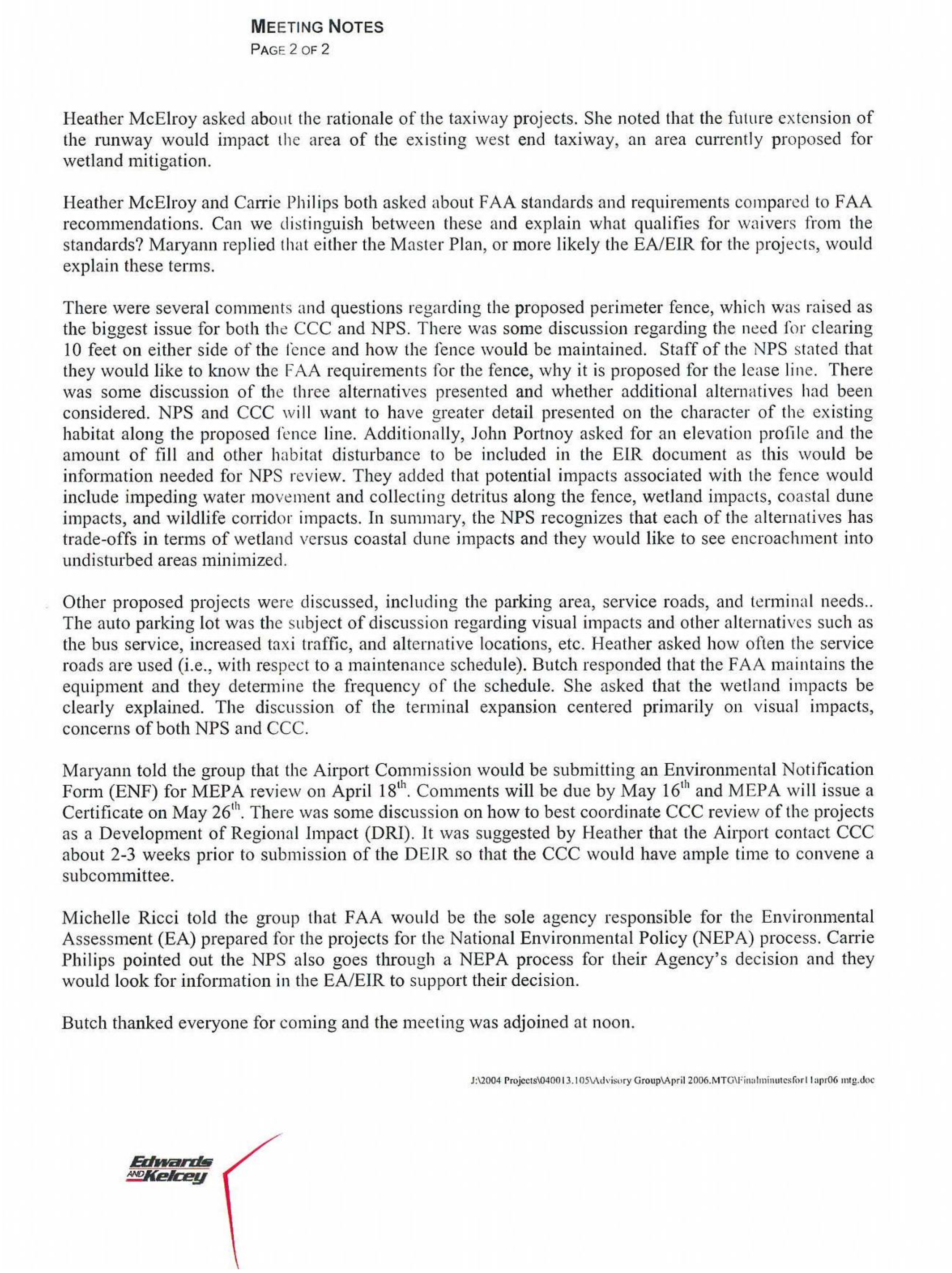

Heather McElroy asked about the rationale of the taxiway projects. She noted that the future extension of the runway would impact the area of the existing west end taxiway, an area currently proposed for wetland mitigation.

Heather McElroy and Carrie Philips both asked about FAA standards and requirements compared to FAA recommendations. Can we distinguish between these and explain what qualifies for waivers from the standards? Maryann replied that either the Master Plan, or more likely the EA/EIR for the projects, would explain these terms.

There were several comments and questions regarding the proposed perimeter fence, which was raised as the biggest issue for both the CCC and NPS. There was some discussion regarding the need for clearing 10 feet on either side of the fence and how the fence would be maintained. Staff of the NPS stated that they would like to know the FAA requirements for the fence, why it is proposed for the lease line. There was some discussion of the three alternatives presented and whether additional alternatives had been considered. NPS and CCC will want to have greater detail presented on the character of the existing habitat along the proposed fence line. Additionally, John Portnoy asked for an elevation profile and the amount of fill and other habitat disturbance to be included in the EIR document as this would be information needed for NPS review. They added that potential impacts associated with the fence would include impeding water movement and collecting detritus along the fence, wetland impacts, coastal dune impacts, and wildlife corridor impacts. In summary, the NPS recognizes that each of the alternatives has trade-offs in terms of wetland versus coastal dune impacts and they would like to see encroachment into undisturbed areas minimized.

Other proposed projects were discussed, including the parking area, service roads, and terminal needs.. The auto parking lot was the subject of discussion regarding visual impacts and other alternatives such as the bus service, increased taxi traffic, and alternative locations, etc. Heather asked how often the service roads are used (i.e., with respect to a maintenance schedule). Butch responded that the FAA maintains the equipment and they determine the frequency of the schedule. She asked that the wetland impacts be clearly explained. The discussion of the terminal expansion centered primarily on visual impacts, concerns of both NPS and CCC.

Maryann told the group that the Airport Commission would be submitting an Environmental Notification Form (ENF) for MEPA review on April 18th. Comments will be due by May 16th and MEPA will issue a Certificate on May 26th. There was some discussion on how to best coordinate CCC review of the projects as a Development of Regional Impact (DRI). It was suggested by Heather that the Airport contact CCC about 2-3 weeks prior to submission of the DEIR so that the CCC would have ample time to convene a subcommittee.

Michelle Ricci told the group that FAA would be the sole agency responsible for the Environmental Assessment (EA) prepared for the projects for the National Environmental Policy (NEPA) process. Carrie Philips pointed out the NPS also goes through a NEPA process for their Agency's decision and they would look for information in the EA/EIR to support their decision.

Butch thanked everyone for coming and the meeting was adjoined at noon.

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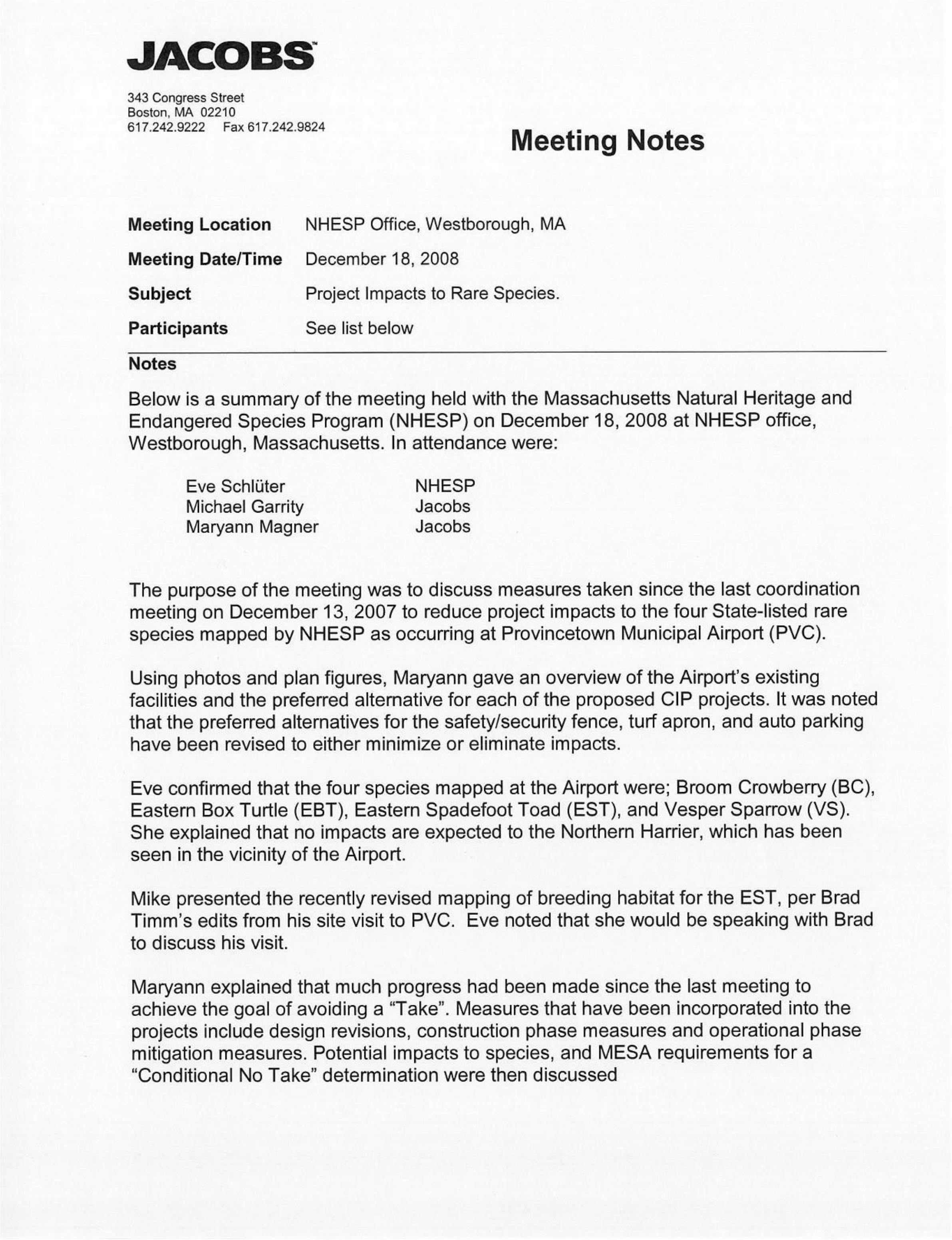
Edwards AND Kelcey



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Meeting Notes

Meeting Location	NHESP Office, Westborough, MA
Meeting Date/Time	December 18, 2008
Subject	Project Impacts to Rare Species.
Participants	See list below

Notes

Below is a summary of the meeting held with the Massachusetts Natural Heritage and Endangered Species Program (NHESP) on December 18, 2008 at NHESP office, Westborough, Massachusetts. In attendance were:

Eve Schlüter	NHESP
Michael Garrity	Jacobs
Maryann Magner	Jacobs

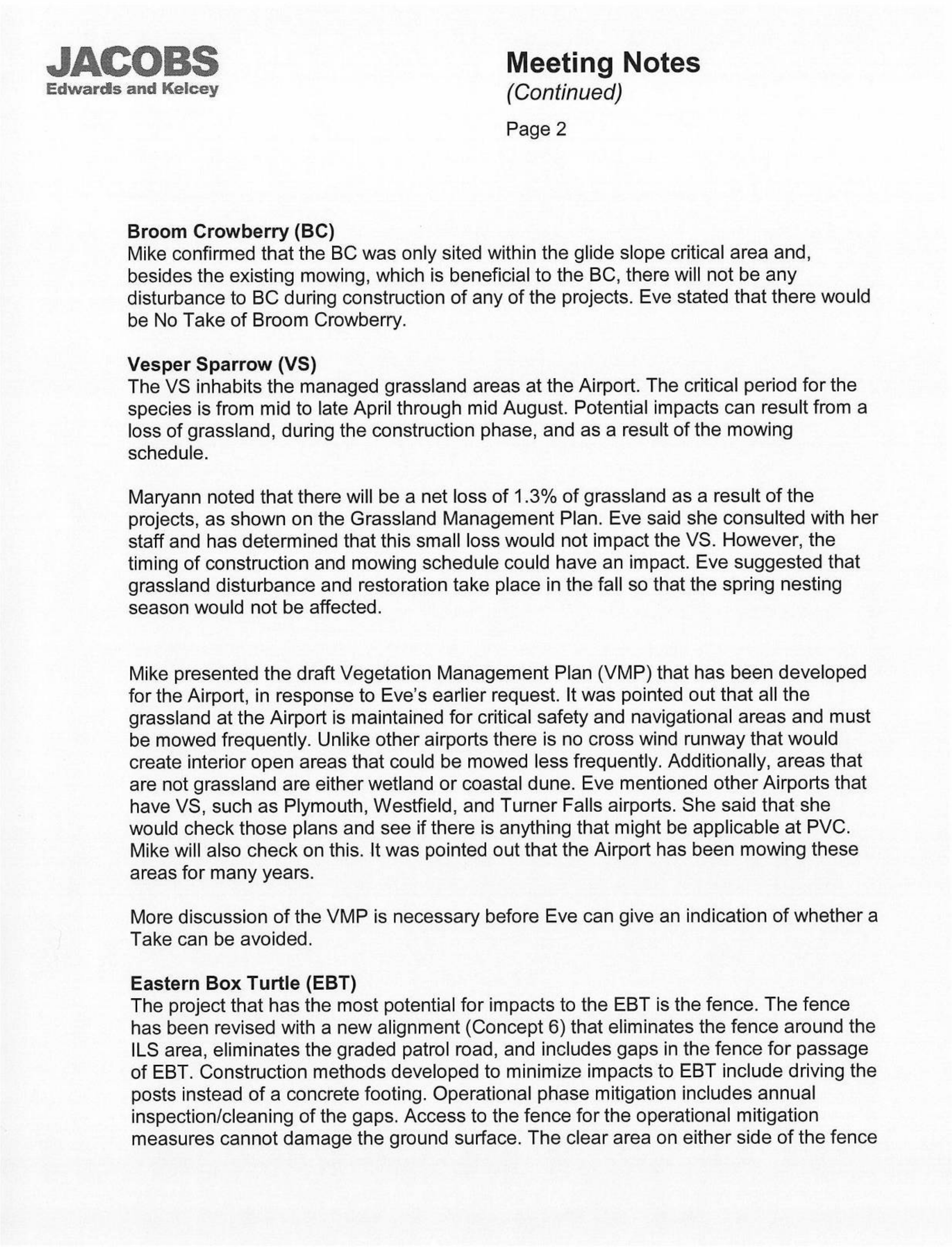
The purpose of the meeting was to discuss measures taken since the last coordination meeting on December 13, 2007 to reduce project impacts to the four State-listed rare species mapped by NHESP as occurring at Provincetown Municipal Airport (PVC).

Using photos and plan figures, Maryann gave an overview of the Airport's existing facilities and the preferred alternative for each of the proposed CIP projects. It was noted that the preferred alternatives for the safety/security fence, turf apron, and auto parking have been revised to either minimize or eliminate impacts.

Eve confirmed that the four species mapped at the Airport were; Broom Crowberry (BC), Eastern Box Turtle (EBT), Eastern Spadefoot Toad (EST), and Vesper Sparrow (VS). She explained that no impacts are expected to the Northern Harrier, which has been seen in the vicinity of the Airport.

Mike presented the recently revised mapping of breeding habitat for the EST, per Brad Timm's edits from his site visit to PVC. Eve noted that she would be speaking with Brad to discuss his visit.

Maryann explained that much progress had been made since the last meeting to achieve the goal of avoiding a "Take". Measures that have been incorporated into the projects include design revisions, construction phase measures and operational phase mitigation measures. Potential impacts to species, and MESA requirements for a "Conditional No Take" determination were then discussed



Broom Crowberry (BC)
Mike confirmed that the BC was only sited within the glide slope critical area and, besides the existing mowing, which is beneficial to the BC, there will not be any disturbance to BC during construction of any of the projects. Eve stated that there would be No Take of Broom Crowberry.

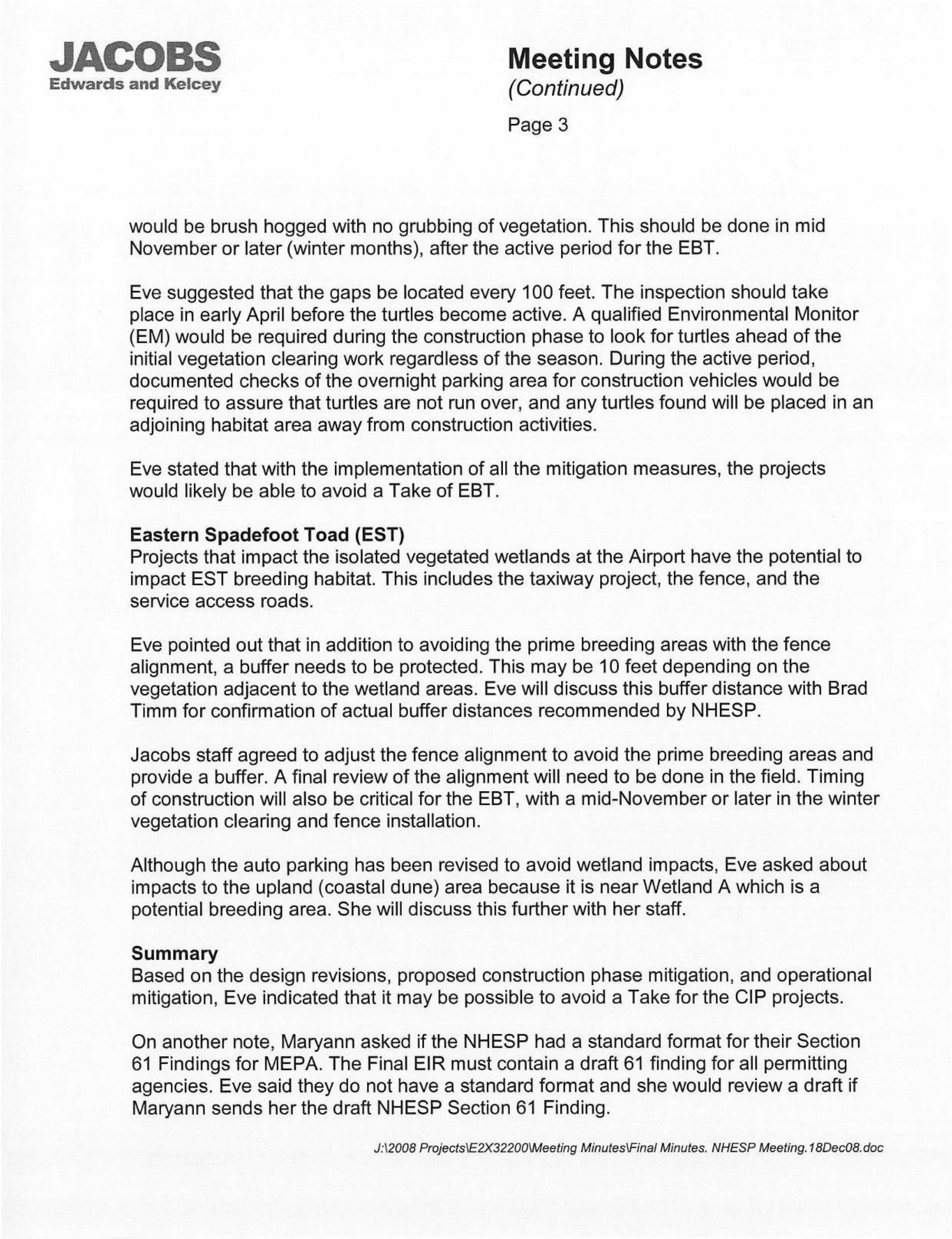
Vesper Sparrow (VS)
The VS inhabits the managed grassland areas at the Airport. The critical period for the species is from mid to late April through mid August. Potential impacts can result from a loss of grassland, during the construction phase, and as a result of the mowing schedule.

Maryann noted that there will be a net loss of 1.3% of grassland as a result of the projects, as shown on the Grassland Management Plan. Eve said she consulted with her staff and has determined that this small loss would not impact the VS. However, the timing of construction and mowing schedule could have an impact. Eve suggested that grassland disturbance and restoration take place in the fall so that the spring nesting season would not be affected.

Mike presented the draft Vegetation Management Plan (VMP) that has been developed for the Airport, in response to Eve's earlier request. It was pointed out that all the grassland at the Airport is maintained for critical safety and navigational areas and must be mowed frequently. Unlike other airports there is no cross wind runway that would create interior open areas that could be mowed less frequently. Additionally, areas that are not grassland are either wetland or coastal dune. Eve mentioned other Airports that have VS, such as Plymouth, Westfield, and Turner Falls airports. She said that she would check those plans and see if there is anything that might be applicable at PVC. Mike will also check on this. It was pointed out that the Airport has been mowing these areas for many years.

More discussion of the VMP is necessary before Eve can give an indication of whether a Take can be avoided.

Eastern Box Turtle (EBT)
The project that has the most potential for impacts to the EBT is the fence. The fence has been revised with a new alignment (Concept 6) that eliminates the fence around the ILS area, eliminates the graded patrol road, and includes gaps in the fence for passage of EBT. Construction methods developed to minimize impacts to EBT include driving the posts instead of a concrete footing. Operational phase mitigation includes annual inspection/cleaning of the gaps. Access to the fence for the operational mitigation measures cannot damage the ground surface. The clear area on either side of the fence



would be brush hogged with no grubbing of vegetation. This should be done in mid November or later (winter months), after the active period for the EBT.

Eve suggested that the gaps be located every 100 feet. The inspection should take place in early April before the turtles become active. A qualified Environmental Monitor (EM) would be required during the construction phase to look for turtles ahead of the initial vegetation clearing work regardless of the season. During the active period, documented checks of the overnight parking area for construction vehicles would be required to assure that turtles are not run over, and any turtles found will be placed in an adjoining habitat area away from construction activities.

Eve stated that with the implementation of all the mitigation measures, the projects would likely be able to avoid a Take of EBT.

Eastern Spadefoot Toad (EST)
Projects that impact the isolated vegetated wetlands at the Airport have the potential to impact EST breeding habitat. This includes the taxiway project, the fence, and the service access roads.

Eve pointed out that in addition to avoiding the prime breeding areas with the fence alignment, a buffer needs to be protected. This may be 10 feet depending on the vegetation adjacent to the wetland areas. Eve will discuss this buffer distance with Brad Timm for confirmation of actual buffer distances recommended by NHESP.

Jacobs staff agreed to adjust the fence alignment to avoid the prime breeding areas and provide a buffer. A final review of the alignment will need to be done in the field. Timing of construction will also be critical for the EBT, with a mid-November or later in the winter vegetation clearing and fence installation.

Although the auto parking has been revised to avoid wetland impacts, Eve asked about impacts to the upland (coastal dune) area because it is near Wetland A which is a potential breeding area. She will discuss this further with her staff.

Summary
Based on the design revisions, proposed construction phase mitigation, and operational mitigation, Eve indicated that it may be possible to avoid a Take for the CIP projects.

On another note, Maryann asked if the NHESP had a standard format for their Section 61 Findings for MEPA. The Final EIR must contain a draft 61 finding for all permitting agencies. Eve said they do not have a standard format and she would review a draft if Maryann sends her the draft NHESP Section 61 Finding.

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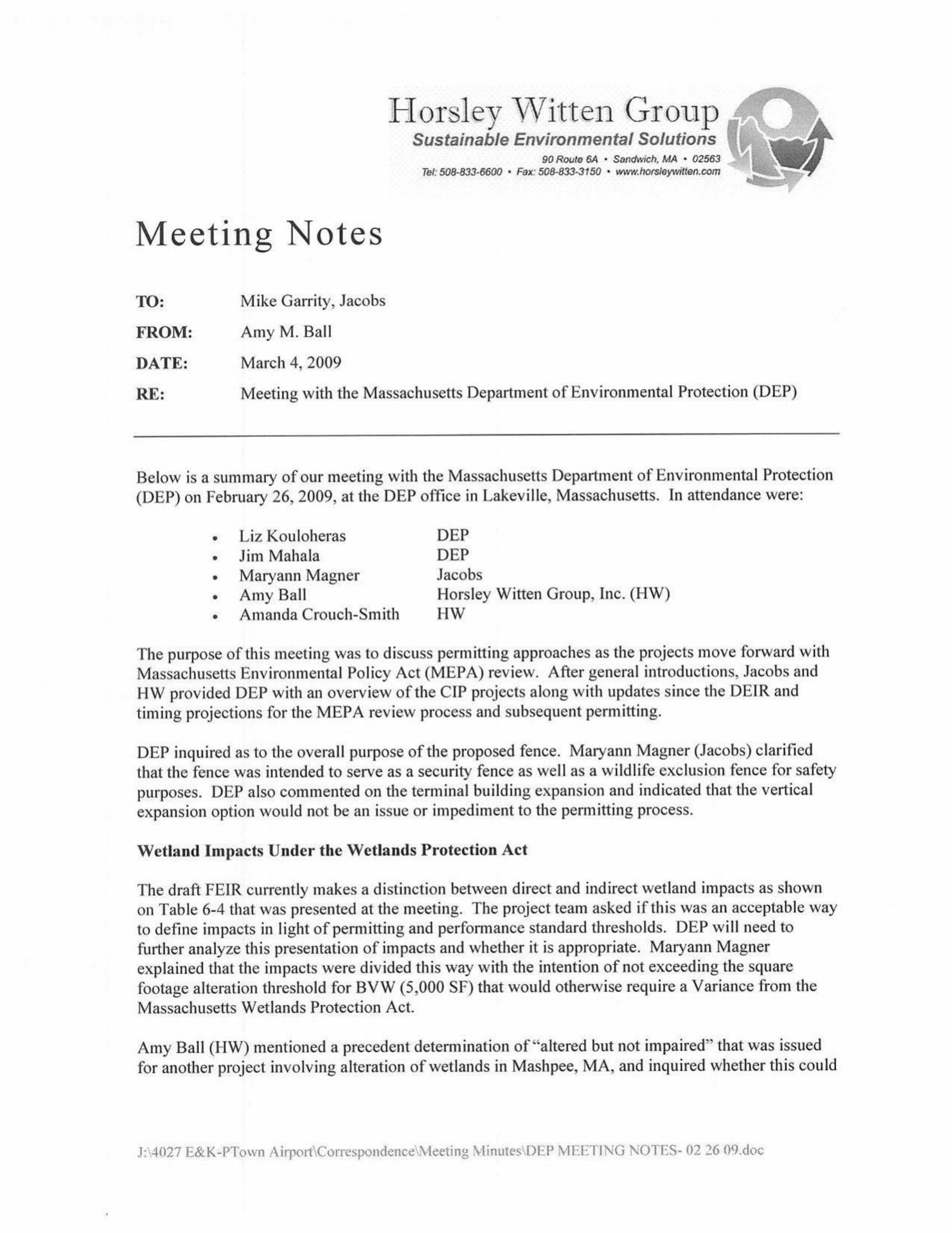

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Meeting Notes

TO: Mike Garrity, Jacobs
FROM: Amy M. Ball
DATE: March 4, 2009
RE: Meeting with the Massachusetts Department of Environmental Protection (DEP)

Below is a summary of our meeting with the Massachusetts Department of Environmental Protection (DEP) on February 26, 2009, at the DEP office in Lakeville, Massachusetts. In attendance were:

• Liz Kouloheras	DEP
• Jim Mahala	DEP
• Maryann Magner	Jacobs
• Amy Ball	Horsley Witten Group, Inc. (HW)
• Amanda Crouch-Smith	HW

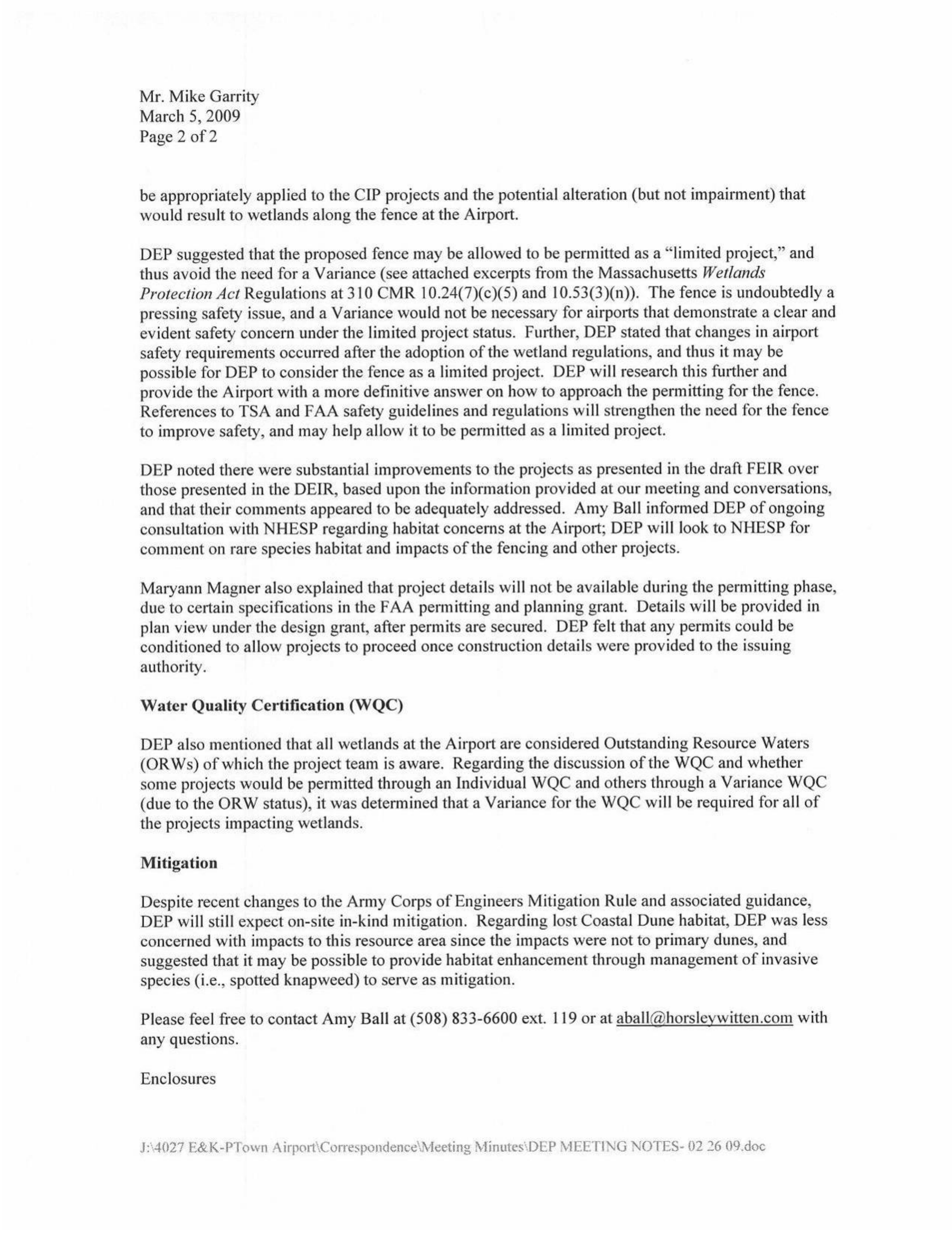
The purpose of this meeting was to discuss permitting approaches as the projects move forward with Massachusetts Environmental Policy Act (MEPA) review. After general introductions, Jacobs and HW provided DEP with an overview of the CIP projects along with updates since the DEIR and timing projections for the MEPA review process and subsequent permitting.

DEP inquired as to the overall purpose of the proposed fence. Maryann Magner (Jacobs) clarified that the fence was intended to serve as a security fence as well as a wildlife exclusion fence for safety purposes. DEP also commented on the terminal building expansion and indicated that the vertical expansion option would not be an issue or impediment to the permitting process.

Wetland Impacts Under the Wetlands Protection Act

The draft FEIR currently makes a distinction between direct and indirect wetland impacts as shown on Table 6-4 that was presented at the meeting. The project team asked if this was an acceptable way to define impacts in light of permitting and performance standard thresholds. DEP will need to further analyze this presentation of impacts and whether it is appropriate. Maryann Magner explained that the impacts were divided this way with the intention of not exceeding the square footage alteration threshold for BVW (5,000 SF) that would otherwise require a Variance from the Massachusetts Wetlands Protection Act.

Amy Ball (HW) mentioned a precedent determination of "altered but not impaired" that was issued for another project involving alteration of wetlands in Mashpee, MA, and inquired whether this could



be appropriately applied to the CIP projects and the potential alteration (but not impairment) that would result to wetlands along the fence at the Airport.

DEP suggested that the proposed fence may be allowed to be permitted as a "limited project," and thus avoid the need for a Variance (see attached excerpts from the Massachusetts *Wetlands Protection Act* Regulations at 310 CMR 10.24(7)(c)(5) and 10.53(3)(n)). The fence is undoubtedly a pressing safety issue, and a Variance would not be necessary for airports that demonstrate a clear and evident safety concern under the limited project status. Further, DEP stated that changes in airport safety requirements occurred after the adoption of the wetland regulations, and thus it may be possible for DEP to consider the fence as a limited project. DEP will research this further and provide the Airport with a more definitive answer on how to approach the permitting for the fence. References to TSA and FAA safety guidelines and regulations will strengthen the need for the fence to improve safety, and may help allow it to be permitted as a limited project.

DEP noted there were substantial improvements to the projects as presented in the draft FEIR over those presented in the DEIR, based upon the information provided at our meeting and conversations, and that their comments appeared to be adequately addressed. Amy Ball informed DEP of ongoing consultation with NHESP regarding habitat concerns at the Airport; DEP will look to NHESP for comment on rare species habitat and impacts of the fencing and other projects.

Maryann Magner also explained that project details will not be available during the permitting phase, due to certain specifications in the FAA permitting and planning grant. Details will be provided in plan view under the design grant, after permits are secured. DEP felt that any permits could be conditioned to allow projects to proceed once construction details were provided to the issuing authority.

Water Quality Certification (WQC)

DEP also mentioned that all wetlands at the Airport are considered Outstanding Resource Waters (ORWs) of which the project team is aware. Regarding the discussion of the WQC and whether some projects would be permitted through an Individual WQC and others through a Variance WQC (due to the ORW status), it was determined that a Variance for the WQC will be required for all of the projects impacting wetlands.

Mitigation

Despite recent changes to the Army Corps of Engineers Mitigation Rule and associated guidance, DEP will still expect on-site in-kind mitigation. Regarding lost Coastal Dune habitat, DEP was less concerned with impacts to this resource area since the impacts were not to primary dunes, and suggested that it may be possible to provide habitat enhancement through management of invasive species (i.e., spotted knapweed) to serve as mitigation.

Please feel free to contact Amy Ball at (508) 833-6600 ext. 119 or at aball@horsleywitten.com with any questions.

Enclosures

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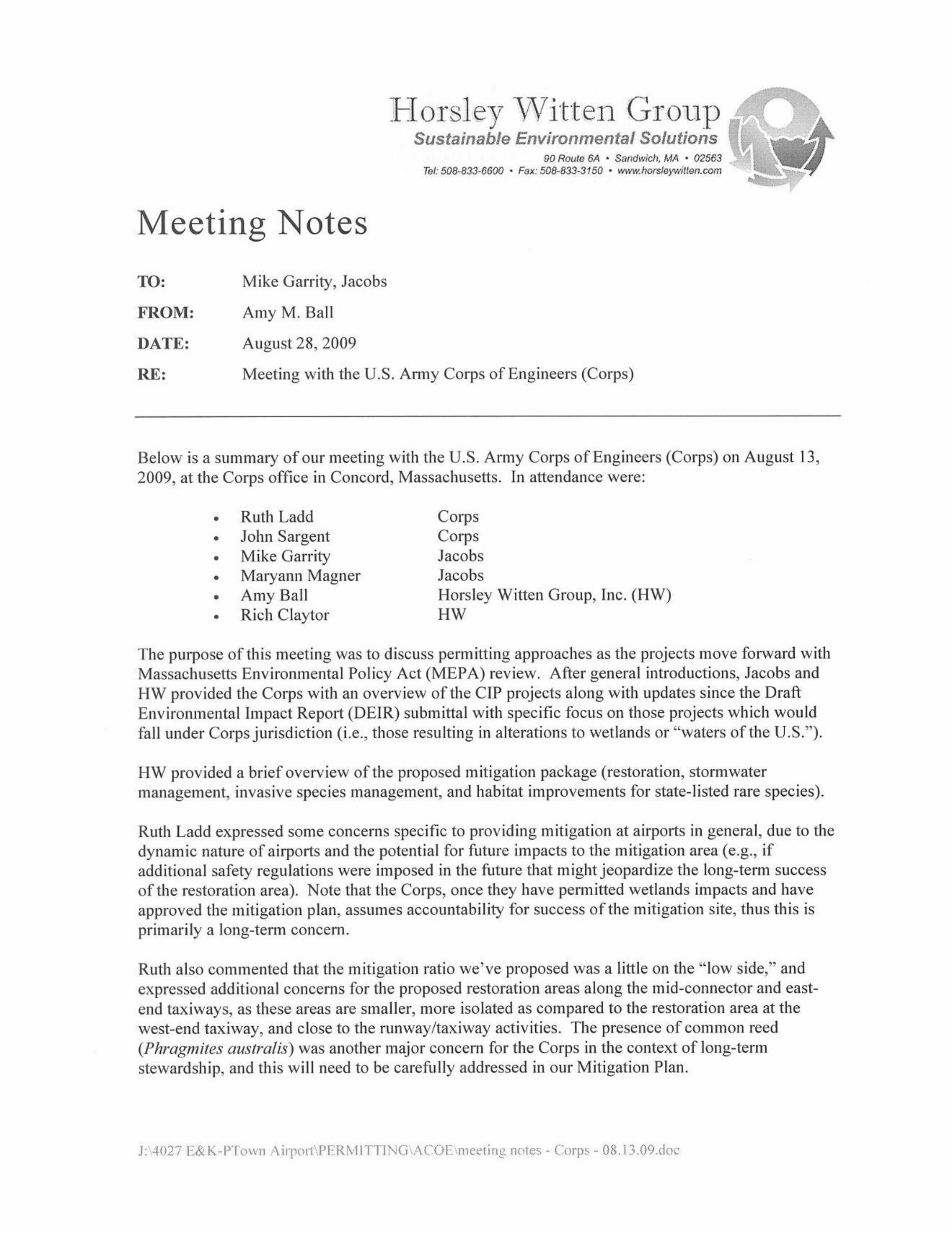

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Meeting Notes

TO: Mike Garrity, Jacobs

FROM: Amy M. Ball

DATE: August 28, 2009

RE: Meeting with the U.S. Army Corps of Engineers (Corps)

Below is a summary of our meeting with the U.S. Army Corps of Engineers (Corps) on August 13, 2009, at the Corps office in Concord, Massachusetts. In attendance were:

• Ruth Ladd	Corps
• John Sargent	Corps
• Mike Garrity	Jacobs
• Maryann Magner	Jacobs
• Amy Ball	Horsley Witten Group, Inc. (HW)
• Rich Claytor	HW

The purpose of this meeting was to discuss permitting approaches as the projects move forward with Massachusetts Environmental Policy Act (MEPA) review. After general introductions, Jacobs and HW provided the Corps with an overview of the CIP projects along with updates since the Draft Environmental Impact Report (DEIR) submittal with specific focus on those projects which would fall under Corps jurisdiction (i.e., those resulting in alterations to wetlands or "waters of the U.S.").

HW provided a brief overview of the proposed mitigation package (restoration, stormwater management, invasive species management, and habitat improvements for state-listed rare species).

Ruth Ladd expressed some concerns specific to providing mitigation at airports in general, due to the dynamic nature of airports and the potential for future impacts to the mitigation area (e.g., if additional safety regulations were imposed in the future that might jeopardize the long-term success of the restoration area). Note that the Corps, once they have permitted wetlands impacts and have approved the mitigation plan, assumes accountability for success of the mitigation site, thus this is primarily a long-term concern.

Ruth also commented that the mitigation ratio we've proposed was a little on the "low side," and expressed additional concerns for the proposed restoration areas along the mid-connector and east-end taxiways, as these areas are smaller, more isolated as compared to the restoration area at the west-end taxiway, and close to the runway/taxiway activities. The presence of common reed (*Phragmites australis*) was another major concern for the Corps in the context of long-term stewardship, and this will need to be carefully addressed in our Mitigation Plan.

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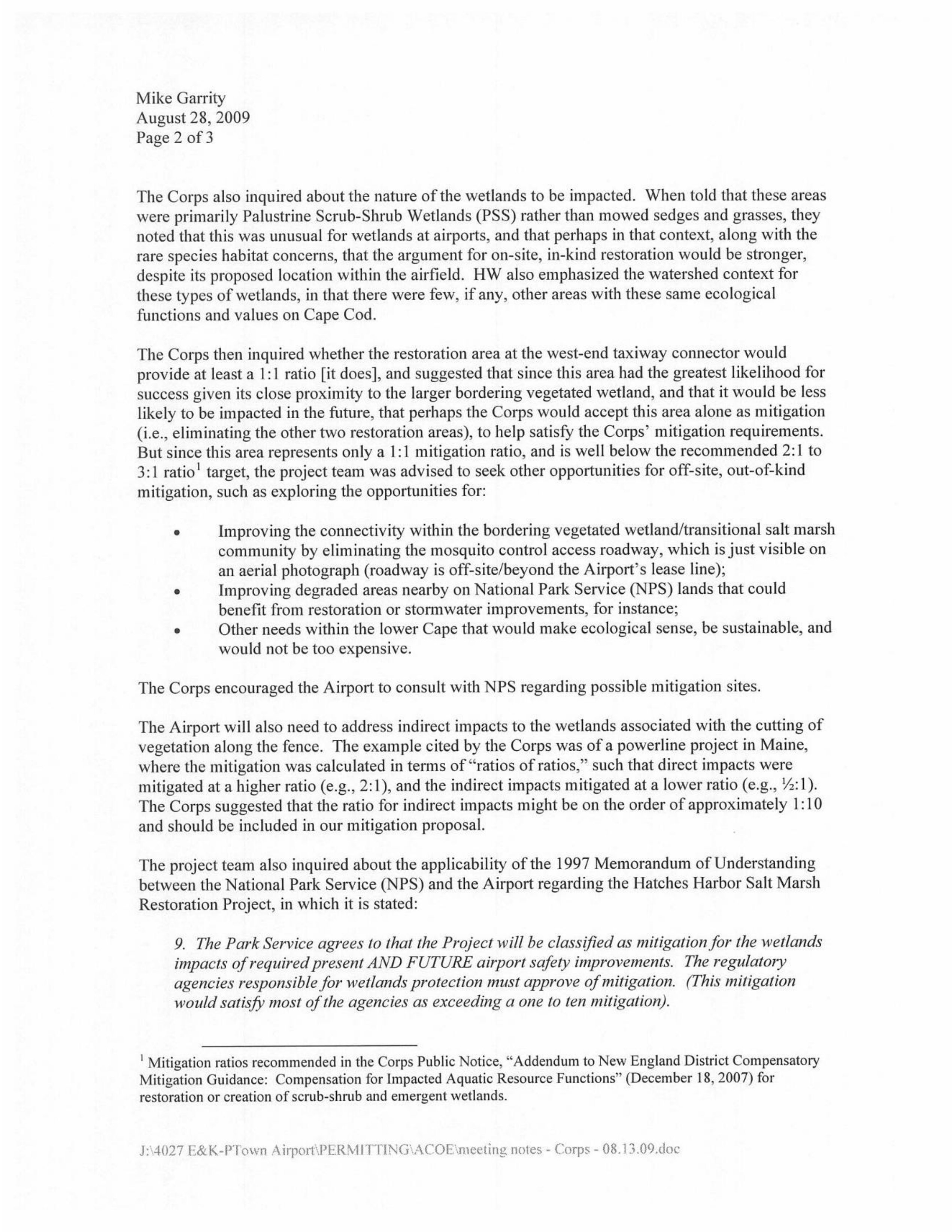

The Corps also inquired about the nature of the wetlands to be impacted. When told that these areas were primarily Palustrine Scrub-Shrub Wetlands (PSS) rather than mowed sedges and grasses, they noted that this was unusual for wetlands at airports, and that perhaps in that context, along with the rare species habitat concerns, that the argument for on-site, in-kind restoration would be stronger, despite its proposed location within the airfield. HW also emphasized the watershed context for these types of wetlands, in that there were few, if any, other areas with these same ecological functions and values on Cape Cod.

The Corps then inquired whether the restoration area at the west-end taxiway connector would provide at least a 1:1 ratio [it does], and suggested that since this area had the greatest likelihood for success given its close proximity to the larger bordering vegetated wetland, and that it would be less likely to be impacted in the future, that perhaps the Corps would accept this area alone as mitigation (i.e., eliminating the other two restoration areas), to help satisfy the Corps' mitigation requirements. But since this area represents only a 1:1 mitigation ratio, and is well below the recommended 2:1 to 3:1 ratio[1] target, the project team was advised to seek other opportunities for off-site, out-of-kind mitigation, such as exploring the opportunities for:

- Improving the connectivity within the bordering vegetated wetland/transitional salt marsh community by eliminating the mosquito control access roadway, which is just visible on an aerial photograph (roadway is off-site/beyond the Airport's lease line);
- Improving degraded areas nearby on National Park Service (NPS) lands that could benefit from restoration or stormwater improvements, for instance;
- Other needs within the lower Cape that would make ecological sense, be sustainable, and would not be too expensive.

The Corps encouraged the Airport to consult with NPS regarding possible mitigation sites.

The Airport will also need to address indirect impacts to the wetlands associated with the cutting of vegetation along the fence. The example cited by the Corps was of a powerline project in Maine, where the mitigation was calculated in terms of "ratios of ratios," such that direct impacts were mitigated at a higher ratio (e.g., 2:1), and the indirect impacts mitigated at a lower ratio (e.g., ½:1). The Corps suggested that the ratio for indirect impacts might be on the order of approximately 1:10 and should be included in our mitigation proposal.

The project team also inquired about the applicability of the 1997 Memorandum of Understanding between the National Park Service (NPS) and the Airport regarding the Hatches Harbor Salt Marsh Restoration Project, in which it is stated:

> *9. The Park Service agrees to that the Project will be classified as mitigation for the wetlands impacts of required present AND FUTURE airport safety improvements. The regulatory agencies responsible for wetlands protection must approve of mitigation. (This mitigation would satisfy most of the agencies as exceeding a one to ten mitigation).*

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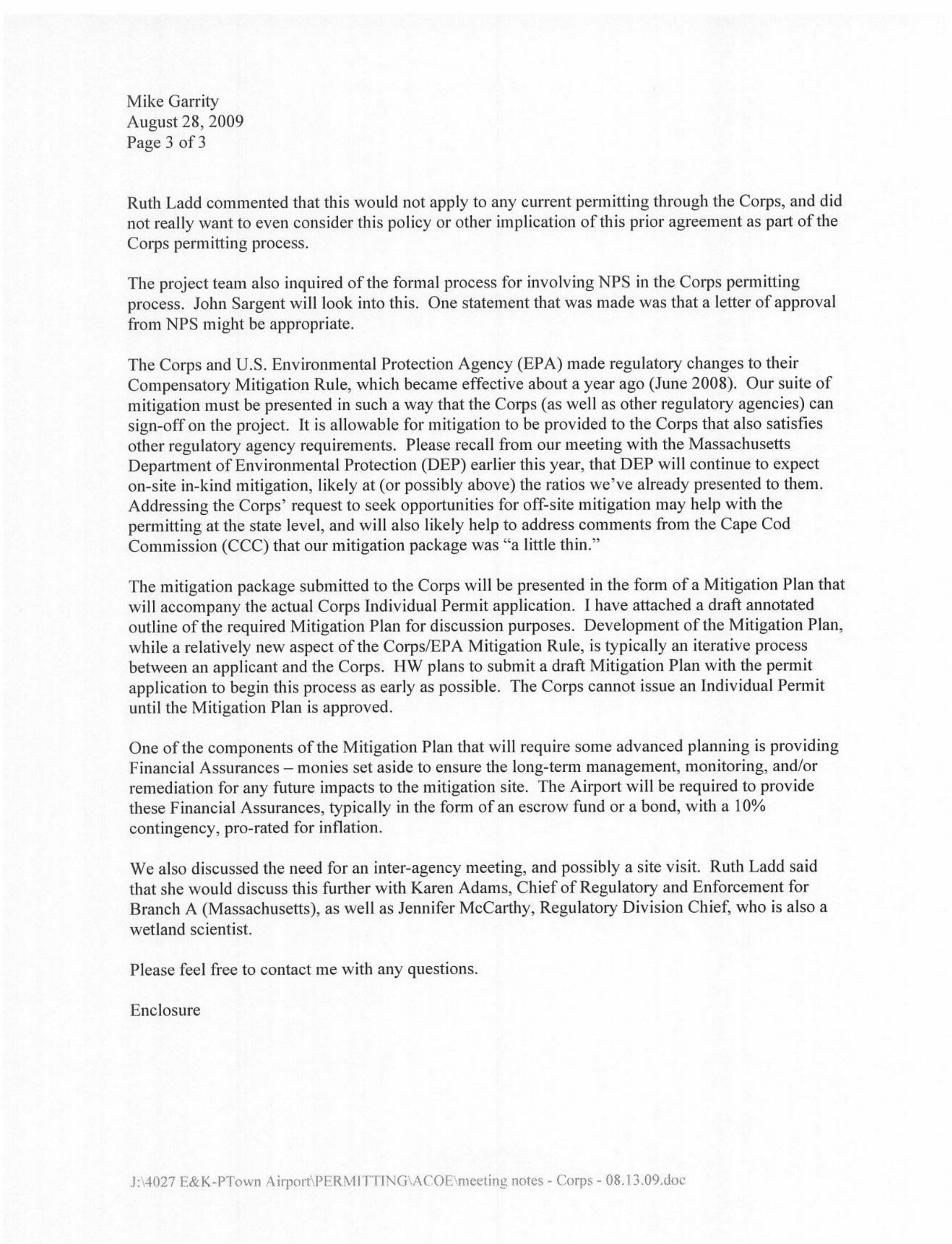
[1] Mitigation ratios recommended in the Corps Public Notice, "Addendum to New England District Compensatory Mitigation Guidance: Compensation for Impacted Aquatic Resource Functions" (December 18, 2007) for restoration or creation of scrub-shrub and emergent wetlands.



Ruth Ladd commented that this would not apply to any current permitting through the Corps, and did not really want to even consider this policy or other implication of this prior agreement as part of the Corps permitting process.

The project team also inquired of the formal process for involving NPS in the Corps permitting process. John Sargent will look into this. One statement that was made was that a letter of approval from NPS might be appropriate.

The Corps and U.S. Environmental Protection Agency (EPA) made regulatory changes to their Compensatory Mitigation Rule, which became effective about a year ago (June 2008). Our suite of mitigation must be presented in such a way that the Corps (as well as other regulatory agencies) can sign-off on the project. It is allowable for mitigation to be provided to the Corps that also satisfies other regulatory agency requirements. Please recall from our meeting with the Massachusetts Department of Environmental Protection (DEP) earlier this year, that DEP will continue to expect on-site in-kind mitigation, likely at (or possibly above) the ratios we've already presented to them. Addressing the Corps' request to seek opportunities for off-site mitigation may help with the permitting at the state level, and will also likely help to address comments from the Cape Cod Commission (CCC) that our mitigation package was "a little thin."

The mitigation package submitted to the Corps will be presented in the form of a Mitigation Plan that will accompany the actual Corps Individual Permit application. I have attached a draft annotated outline of the required Mitigation Plan for discussion purposes. Development of the Mitigation Plan, while a relatively new aspect of the Corps/EPA Mitigation Rule, is typically an iterative process between an applicant and the Corps. HW plans to submit a draft Mitigation Plan with the permit application to begin this process as early as possible. The Corps cannot issue an Individual Permit until the Mitigation Plan is approved.

One of the components of the Mitigation Plan that will require some advanced planning is providing Financial Assurances – monies set aside to ensure the long-term management, monitoring, and/or remediation for any future impacts to the mitigation site. The Airport will be required to provide these Financial Assurances, typically in the form of an escrow fund or a bond, with a 10% contingency, pro-rated for inflation.

We also discussed the need for an inter-agency meeting, and possibly a site visit. Ruth Ladd said that she would discuss this further with Karen Adams, Chief of Regulatory and Enforcement for Branch A (Massachusetts), as well as Jennifer McCarthy, Regulatory Division Chief, who is also a wetland scientist.

Please feel free to contact me with any questions.

Enclosure

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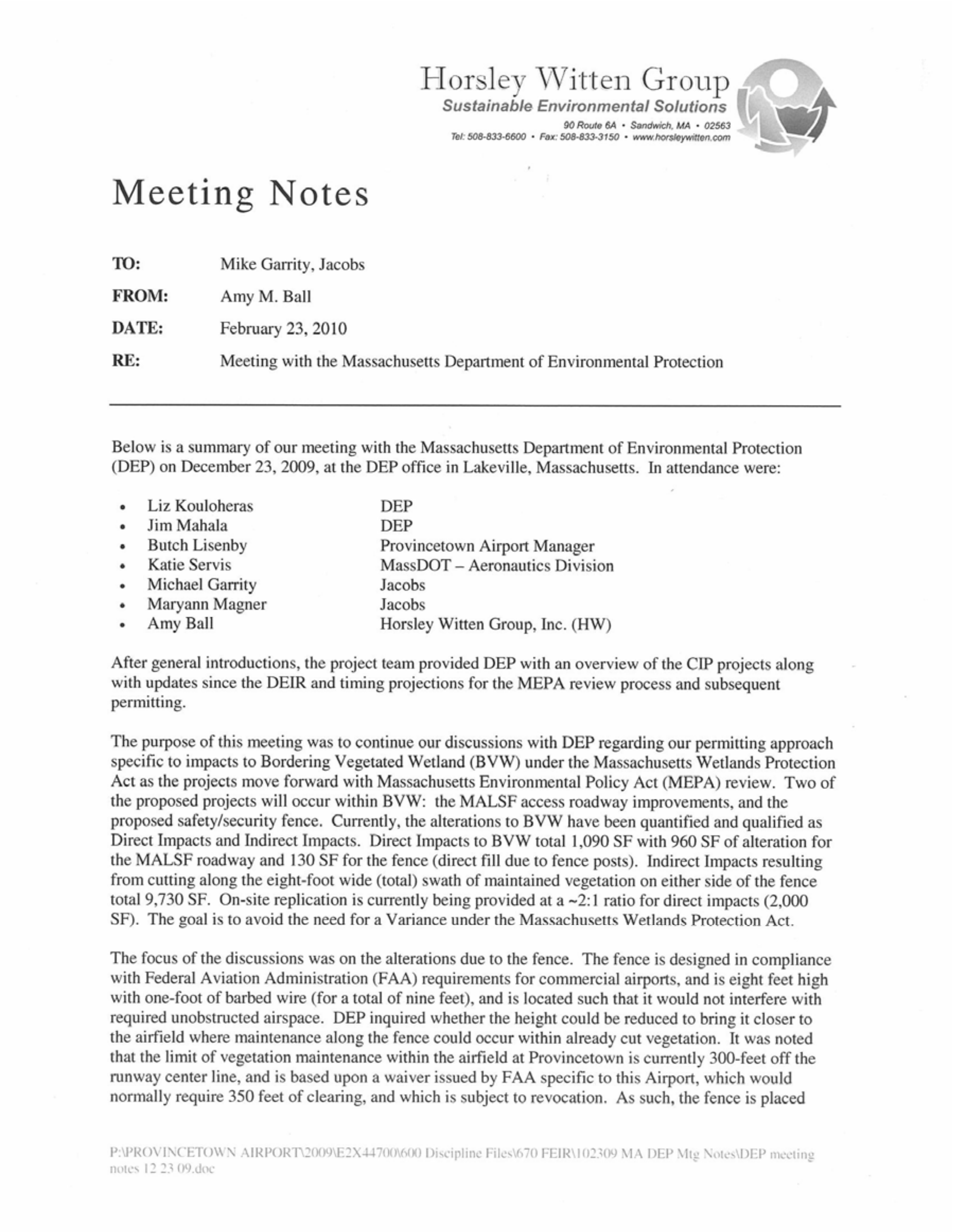

Horsley Witten Group
Sustainable Environmental Solutions
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Meeting Notes

TO: Mike Garrity, Jacobs
FROM: Amy M. Ball
DATE: February 23, 2010
RE: Meeting with the Massachusetts Department of Environmental Protection

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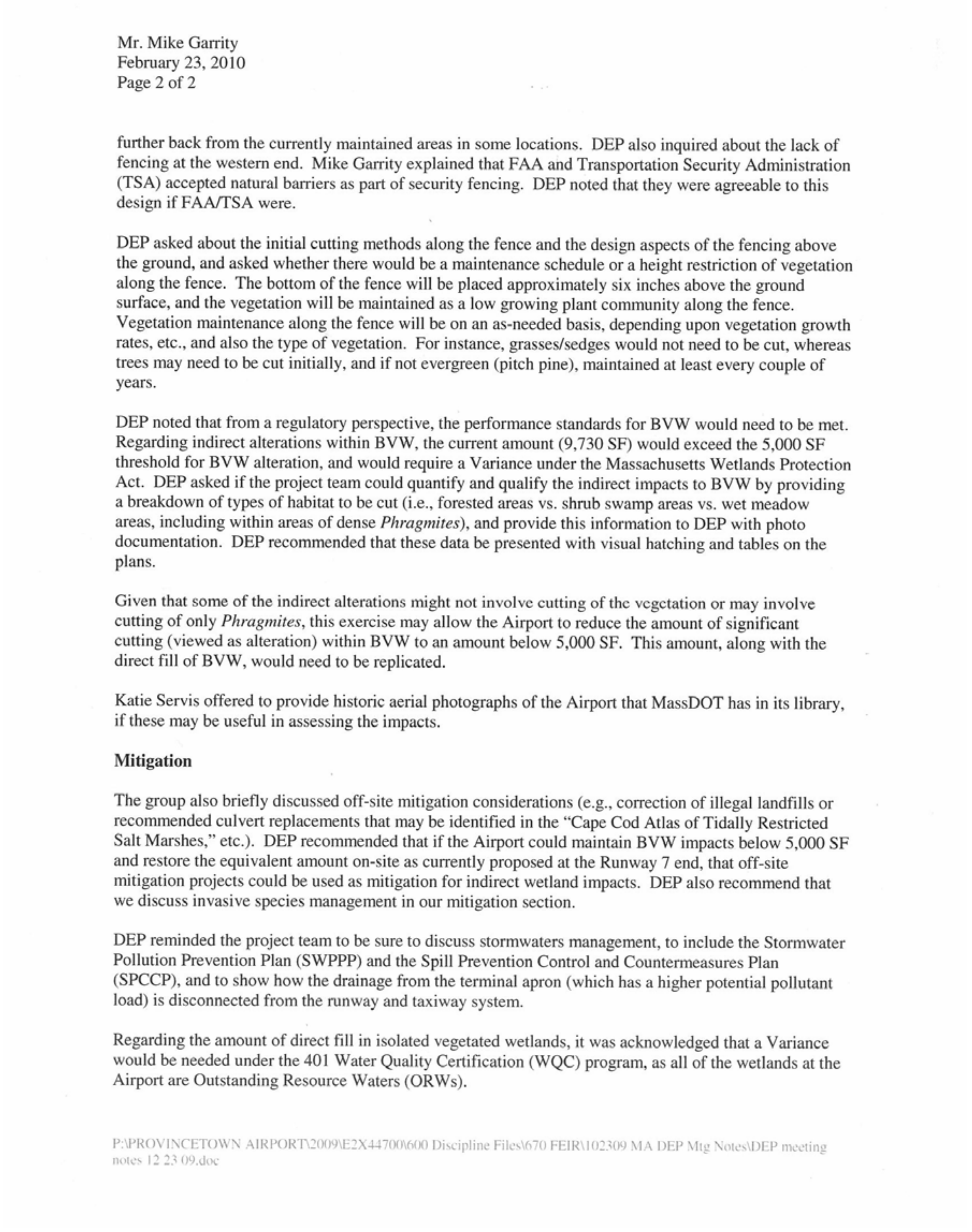
Below is a summary of our meeting with the Massachusetts Department of Environmental Protection (DEP) on December 23, 2009, at the DEP office in Lakeville, Massachusetts. In attendance were:

• Liz Kouloheras	DEP
• Jim Mahala	DEP
• Butch Lisenby	Provincetown Airport Manager
• Katie Servis	MassDOT – Aeronautics Division
• Michael Garrity	Jacobs
• Maryann Magner	Jacobs
• Amy Ball	Horsley Witten Group, Inc. (HW)

After general introductions, the project team provided DEP with an overview of the CIP projects along with updates since the DEIR and timing projections for the MEPA review process and subsequent permitting.

The purpose of this meeting was to continue our discussions with DEP regarding our permitting approach specific to impacts to Bordering Vegetated Wetland (BVW) under the Massachusetts Wetlands Protection Act as the projects move forward with Massachusetts Environmental Policy Act (MEPA) review. Two of the proposed projects will occur within BVW: the MALSF access roadway improvements, and the proposed safety/security fence. Currently, the alterations to BVW have been quantified and qualified as Direct Impacts and Indirect Impacts. Direct Impacts to BVW total 1,090 SF with 960 SF of alteration for the MALSF roadway and 130 SF for the fence (direct fill due to fence posts). Indirect Impacts resulting from cutting along the eight-foot wide (total) swath of maintained vegetation on either side of the fence total 9,730 SF. On-site replication is currently being provided at a ~2:1 ratio for direct impacts (2,000 SF). The goal is to avoid the need for a Variance under the Massachusetts Wetlands Protection Act.

The focus of the discussions was on the alterations due to the fence. The fence is designed in compliance with Federal Aviation Administration (FAA) requirements for commercial airports, and is eight feet high with one-foot of barbed wire (for a total of nine feet), and is located such that it would not interfere with required unobstructed airspace. DEP inquired whether the height could be reduced to bring it closer to the airfield where maintenance along the fence could occur within already cut vegetation. It was noted that the limit of vegetation maintenance within the airfield at Provincetown is currently 300-feet off the runway center line, and is based upon a waiver issued by FAA specific to this Airport, which would normally require 350 feet of clearing, and which is subject to revocation. As such, the fence is placed



Mr. Mike Garrity
February 23, 2010
Page 2 of 2

further back from the currently maintained areas in some locations. DEP also inquired about the lack of fencing at the western end. Mike Garrity explained that FAA and Transportation Security Administration (TSA) accepted natural barriers as part of security fencing. DEP noted that they were agreeable to this design if FAA/TSA were.

DEP asked about the initial cutting methods along the fence and the design aspects of the fencing above the ground, and asked whether there would be a maintenance schedule or a height restriction of vegetation along the fence. The bottom of the fence will be placed approximately six inches above the ground surface, and the vegetation will be maintained as a low growing plant community along the fence. Vegetation maintenance along the fence will be on an as-needed basis, depending upon vegetation growth rates, etc., and also the type of vegetation. For instance, grasses/sedges would not need to be cut, whereas trees may need to be cut initially, and if not evergreen (pitch pine), maintained at least every couple of years.

DEP noted that from a regulatory perspective, the performance standards for BVW would need to be met. Regarding indirect alterations within BVW, the current amount (9,730 SF) would exceed the 5,000 SF threshold for BVW alteration, and would require a Variance under the Massachusetts Wetlands Protection Act. DEP asked if the project team could quantify and qualify the indirect impacts to BVW by providing a breakdown of types of habitat to be cut (i.e., forested areas vs. shrub swamp areas vs. wet meadow areas, including within areas of dense *Phragmites*), and provide this information to DEP with photo documentation. DEP recommended that these data be presented with visual hatching and tables on the plans.

Given that some of the indirect alterations might not involve cutting of the vegetation or may involve cutting of only *Phragmites*, this exercise may allow the Airport to reduce the amount of significant cutting (viewed as alteration) within BVW to an amount below 5,000 SF. This amount, along with the direct fill of BVW, would need to be replicated.

Katie Servis offered to provide historic aerial photographs of the Airport that MassDOT has in its library, if these may be useful in assessing the impacts.

Mitigation

The group also briefly discussed off-site mitigation considerations (e.g., correction of illegal landfills or recommended culvert replacements that may be identified in the "Cape Cod Atlas of Tidally Restricted Salt Marshes," etc.). DEP recommended that if the Airport could maintain BVW impacts below 5,000 SF and restore the equivalent amount on-site as currently proposed at the Runway 7 end, that off-site mitigation projects could be used as mitigation for indirect wetland impacts. DEP also recommend that we discuss invasive species management in our mitigation section.

DEP reminded the project team to be sure to discuss stormwaters management, to include the Stormwater Pollution Prevention Plan (SWPPP) and the Spill Prevention Control and Countermeasures Plan (SPCCP), and to show how the drainage from the terminal apron (which has a higher potential pollutant load) is disconnected from the runway and taxiway system.

Regarding the amount of direct fill in isolated vegetated wetlands, it was acknowledged that a Variance would be needed under the 401 Water Quality Certification (WQC) program, as all of the wetlands at the Airport are Outstanding Resource Waters (ORWs).

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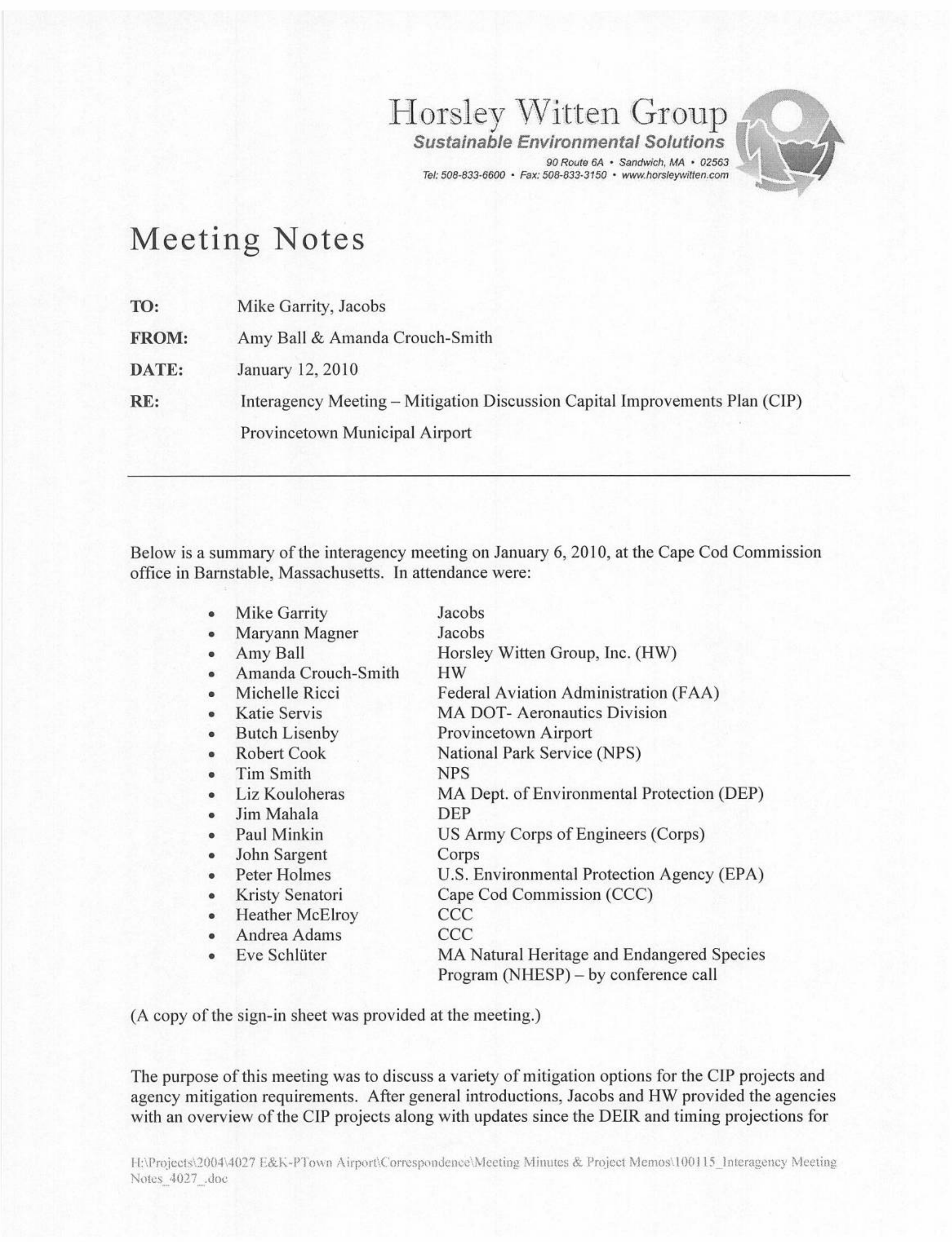

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Meeting Notes

TO: Mike Garrity, Jacobs

FROM: Amy Ball & Amanda Crouch-Smith

DATE: January 12, 2010

RE: Interagency Meeting – Mitigation Discussion Capital Improvements Plan (CIP) Provincetown Municipal Airport

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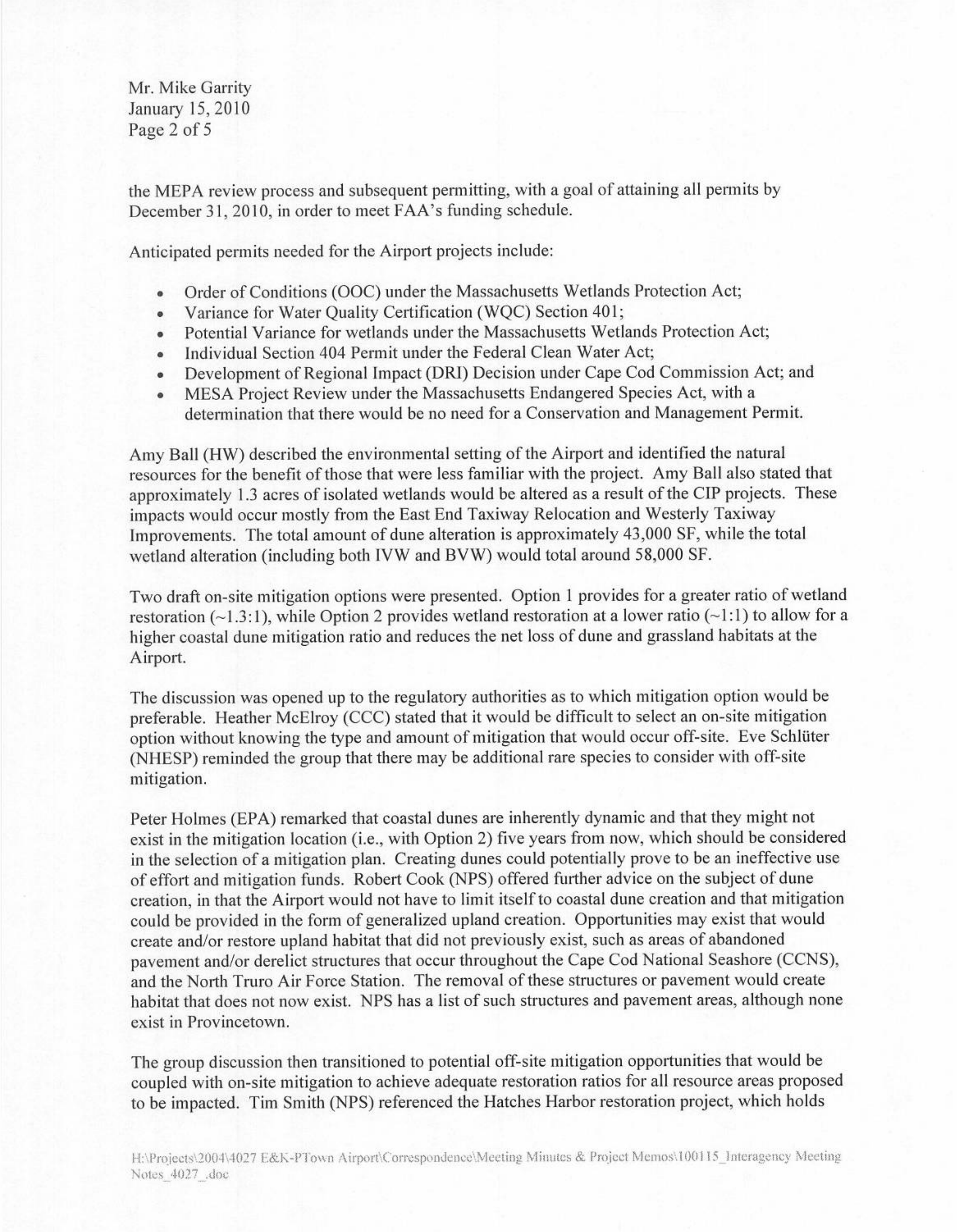
Below is a summary of the interagency meeting on January 6, 2010, at the Cape Cod Commission office in Barnstable, Massachusetts. In attendance were:

Mike Garrity	Jacobs
Maryann Magner	Jacobs
Amy Ball	Horsley Witten Group, Inc. (HW)
Amanda Crouch-Smith	HW
Michelle Ricci	Federal Aviation Administration (FAA)
Katie Servis	MA DOT- Aeronautics Division
Butch Lisenby	Provincetown Airport
Robert Cook	National Park Service (NPS)
Tim Smith	NPS
Liz Kouloheras	MA Dept. of Environmental Protection (DEP)
Jim Mahala	DEP
Paul Minkin	US Army Corps of Engineers (Corps)
John Sargent	Corps
Peter Holmes	U.S. Environmental Protection Agency (EPA)
Kristy Senatori	Cape Cod Commission (CCC)
Heather McElroy	CCC
Andrea Adams	CCC
Eve Schlüter	MA Natural Heritage and Endangered Species Program (NHESP) – by conference call

(A copy of the sign-in sheet was provided at the meeting.)

The purpose of this meeting was to discuss a variety of mitigation options for the CIP projects and agency mitigation requirements. After general introductions, Jacobs and HW provided the agencies with an overview of the CIP projects along with updates since the DEIR and timing projections for



the MEPA review process and subsequent permitting, with a goal of attaining all permits by December 31, 2010, in order to meet FAA's funding schedule.

Anticipated permits needed for the Airport projects include:

- Order of Conditions (OOC) under the Massachusetts Wetlands Protection Act;
- Variance for Water Quality Certification (WQC) Section 401;
- Potential Variance for wetlands under the Massachusetts Wetlands Protection Act;
- Individual Section 404 Permit under the Federal Clean Water Act;
- Development of Regional Impact (DRI) Decision under Cape Cod Commission Act; and
- MESA Project Review under the Massachusetts Endangered Species Act, with a determination that there would be no need for a Conservation and Management Permit.

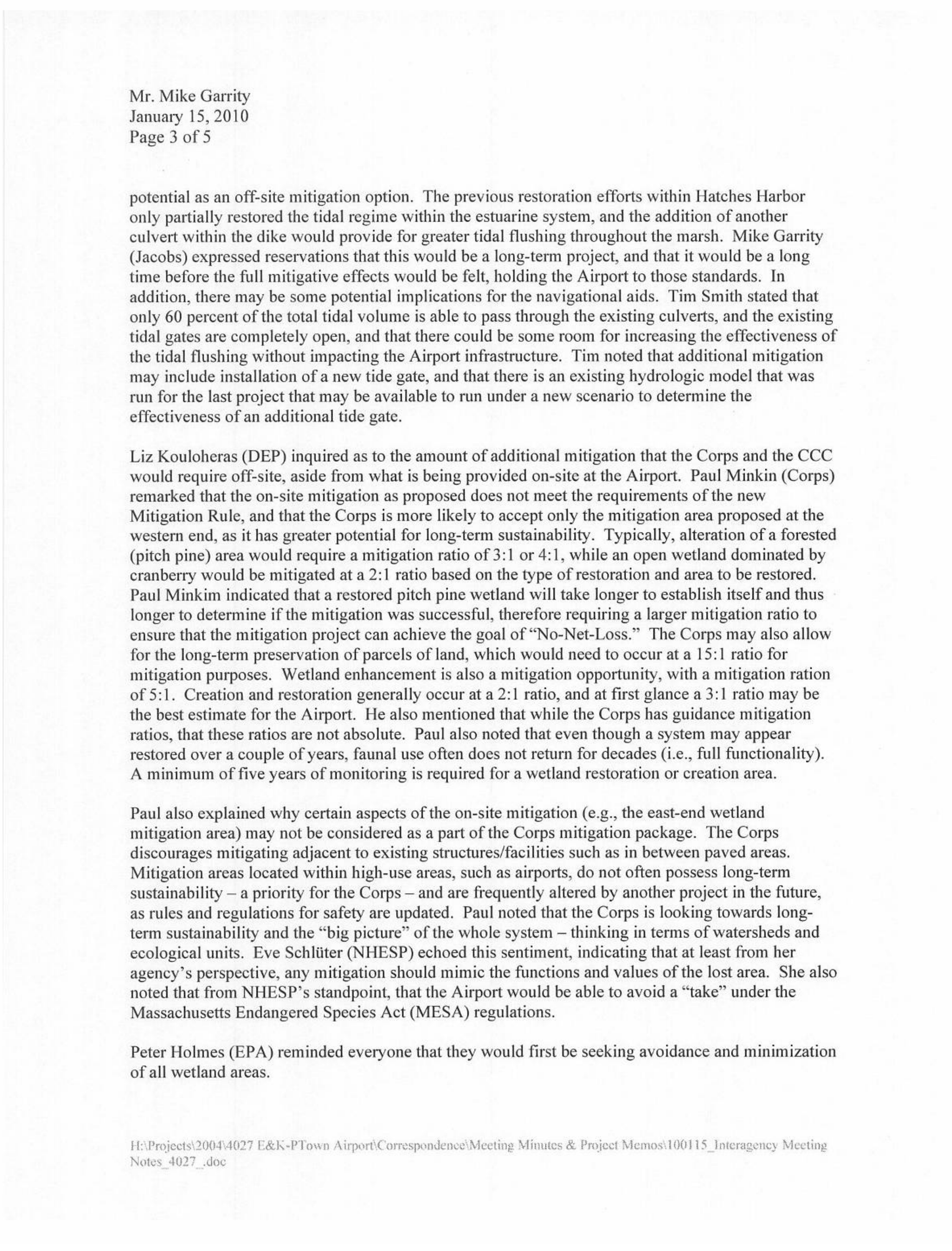
Amy Ball (HW) described the environmental setting of the Airport and identified the natural resources for the benefit of those that were less familiar with the project. Amy Ball also stated that approximately 1.3 acres of isolated wetlands would be altered as a result of the CIP projects. These impacts would occur mostly from the East End Taxiway Relocation and Westerly Taxiway Improvements. The total amount of dune alteration is approximately 43,000 SF, while the total wetland alteration (including both IVW and BVW) would total around 58,000 SF.

Two draft on-site mitigation options were presented. Option 1 provides for a greater ratio of wetland restoration (~1.3:1), while Option 2 provides wetland restoration at a lower ratio (~1:1) to allow for a higher coastal dune mitigation ratio and reduces the net loss of dune and grassland habitats at the Airport.

The discussion was opened up to the regulatory authorities as to which mitigation option would be preferable. Heather McElroy (CCC) stated that it would be difficult to select an on-site mitigation option without knowing the type and amount of mitigation that would occur off-site. Eve Schlüter (NHESP) reminded the group that there may be additional rare species to consider with off-site mitigation.

Peter Holmes (EPA) remarked that coastal dunes are inherently dynamic and that they might not exist in the mitigation location (i.e., with Option 2) five years from now, which should be considered in the selection of a mitigation plan. Creating dunes could potentially prove to be an ineffective use of effort and mitigation funds. Robert Cook (NPS) offered further advice on the subject of dune creation, in that the Airport would not have to limit itself to coastal dune creation and that mitigation could be provided in the form of generalized upland creation. Opportunities may exist that would create and/or restore upland habitat that did not previously exist, such as areas of abandoned pavement and/or derelict structures that occur throughout the Cape Cod National Seashore (CCNS), and the North Truro Air Force Station. The removal of these structures or pavement would create habitat that does not now exist. NPS has a list of such structures and pavement areas, although none exist in Provincetown.

The group discussion then transitioned to potential off-site mitigation opportunities that would be coupled with on-site mitigation to achieve adequate restoration ratios for all resource areas proposed to be impacted. Tim Smith (NPS) referenced the Hatches Harbor restoration project, which holds

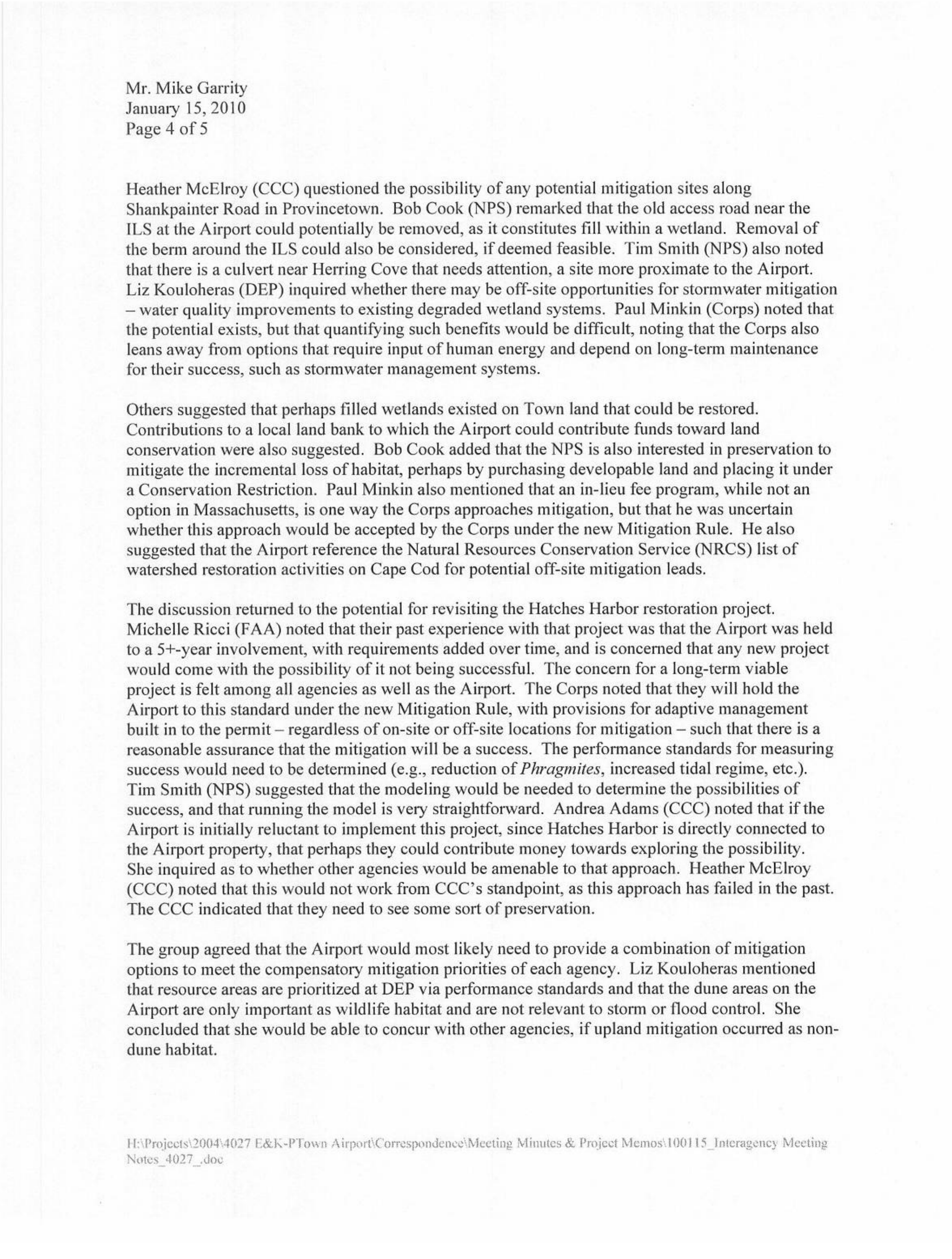


potential as an off-site mitigation option. The previous restoration efforts within Hatches Harbor only partially restored the tidal regime within the estuarine system, and the addition of another culvert within the dike would provide for greater tidal flushing throughout the marsh. Mike Garrity (Jacobs) expressed reservations that this would be a long-term project, and that it would be a long time before the full mitigative effects would be felt, holding the Airport to those standards. In addition, there may be some potential implications for the navigational aids. Tim Smith stated that only 60 percent of the total tidal volume is able to pass through the existing culverts, and the existing tidal gates are completely open, and that there could be some room for increasing the effectiveness of the tidal flushing without impacting the Airport infrastructure. Tim noted that additional mitigation may include installation of a new tide gate, and that there is an existing hydrologic model that was run for the last project that may be available to run under a new scenario to determine the effectiveness of an additional tide gate.

Liz Kouloheras (DEP) inquired as to the amount of additional mitigation that the Corps and the CCC would require off-site, aside from what is being provided on-site at the Airport. Paul Minkin (Corps) remarked that the on-site mitigation as proposed does not meet the requirements of the new Mitigation Rule, and that the Corps is more likely to accept only the mitigation area proposed at the western end, as it has greater potential for long-term sustainability. Typically, alteration of a forested (pitch pine) area would require a mitigation ratio of 3:1 or 4:1, while an open wetland dominated by cranberry would be mitigated at a 2:1 ratio based on the type of restoration and area to be restored. Paul Minkim indicated that a restored pitch pine wetland will take longer to establish itself and thus longer to determine if the mitigation was successful, therefore requiring a larger mitigation ratio to ensure that the mitigation project can achieve the goal of "No-Net-Loss." The Corps may also allow for the long-term preservation of parcels of land, which would need to occur at a 15:1 ratio for mitigation purposes. Wetland enhancement is also a mitigation opportunity, with a mitigation ration of 5:1. Creation and restoration generally occur at a 2:1 ratio, and at first glance a 3:1 ratio may be the best estimate for the Airport. He also mentioned that while the Corps has guidance mitigation ratios, that these ratios are not absolute. Paul also noted that even though a system may appear restored over a couple of years, faunal use often does not return for decades (i.e., full functionality). A minimum of five years of monitoring is required for a wetland restoration or creation area.

Paul also explained why certain aspects of the on-site mitigation (e.g., the east-end wetland mitigation area) may not be considered as a part of the Corps mitigation package. The Corps discourages mitigating adjacent to existing structures/facilities such as in between paved areas. Mitigation areas located within high-use areas, such as airports, do not often possess long-term sustainability – a priority for the Corps – and are frequently altered by another project in the future, as rules and regulations for safety are updated. Paul noted that the Corps is looking towards long-term sustainability and the "big picture" of the whole system – thinking in terms of watersheds and ecological units. Eve Schlüter (NHESP) echoed this sentiment, indicating that at least from her agency's perspective, any mitigation should mimic the functions and values of the lost area. She also noted that from NHESP's standpoint, that the Airport would be able to avoid a "take" under the Massachusetts Endangered Species Act (MESA) regulations.

Peter Holmes (EPA) reminded everyone that they would first be seeking avoidance and minimization of all wetland areas.



Heather McElroy (CCC) questioned the possibility of any potential mitigation sites along Shankpainter Road in Provincetown. Bob Cook (NPS) remarked that the old access road near the ILS at the Airport could potentially be removed, as it constitutes fill within a wetland. Removal of the berm around the ILS could also be considered, if deemed feasible. Tim Smith (NPS) also noted that there is a culvert near Herring Cove that needs attention, a site more proximate to the Airport. Liz Kouloheras (DEP) inquired whether there may be off-site opportunities for stormwater mitigation – water quality improvements to existing degraded wetland systems. Paul Minkin (Corps) noted that the potential exists, but that quantifying such benefits would be difficult, noting that the Corps also leans away from options that require input of human energy and depend on long-term maintenance for their success, such as stormwater management systems.

Others suggested that perhaps filled wetlands existed on Town land that could be restored. Contributions to a local land bank to which the Airport could contribute funds toward land conservation were also suggested. Bob Cook added that the NPS is also interested in preservation to mitigate the incremental loss of habitat, perhaps by purchasing developable land and placing it under a Conservation Restriction. Paul Minkin also mentioned that an in-lieu fee program, while not an option in Massachusetts, is one way the Corps approaches mitigation, but that he was uncertain whether this approach would be accepted by the Corps under the new Mitigation Rule. He also suggested that the Airport reference the Natural Resources Conservation Service (NRCS) list of watershed restoration activities on Cape Cod for potential off-site mitigation leads.

The discussion returned to the potential for revisiting the Hatches Harbor restoration project. Michelle Ricci (FAA) noted that their past experience with that project was that the Airport was held to a 5+-year involvement, with requirements added over time, and is concerned that any new project would come with the possibility of it not being successful. The concern for a long-term viable project is felt among all agencies as well as the Airport. The Corps noted that they will hold the Airport to this standard under the new Mitigation Rule, with provisions for adaptive management built in to the permit – regardless of on-site or off-site locations for mitigation – such that there is a reasonable assurance that the mitigation will be a success. The performance standards for measuring success would need to be determined (e.g., reduction of *Phragmites*, increased tidal regime, etc.). Tim Smith (NPS) suggested that the modeling would be needed to determine the possibilities of success, and that running the model is very straightforward. Andrea Adams (CCC) noted that if the Airport is initially reluctant to implement this project, since Hatches Harbor is directly connected to the Airport property, that perhaps they could contribute money towards exploring the possibility. She inquired as to whether other agencies would be amenable to that approach. Heather McElroy (CCC) noted that this would not work from CCC's standpoint, as this approach has failed in the past. The CCC indicated that they need to see some sort of preservation.

The group agreed that the Airport would most likely need to provide a combination of mitigation options to meet the compensatory mitigation priorities of each agency. Liz Kouloheras mentioned that resource areas are prioritized at DEP via performance standards and that the dune areas on the Airport are only important as wildlife habitat and are not relevant to storm or flood control. She concluded that she would be able to concur with other agencies, if upland mitigation occurred as non-dune habitat.

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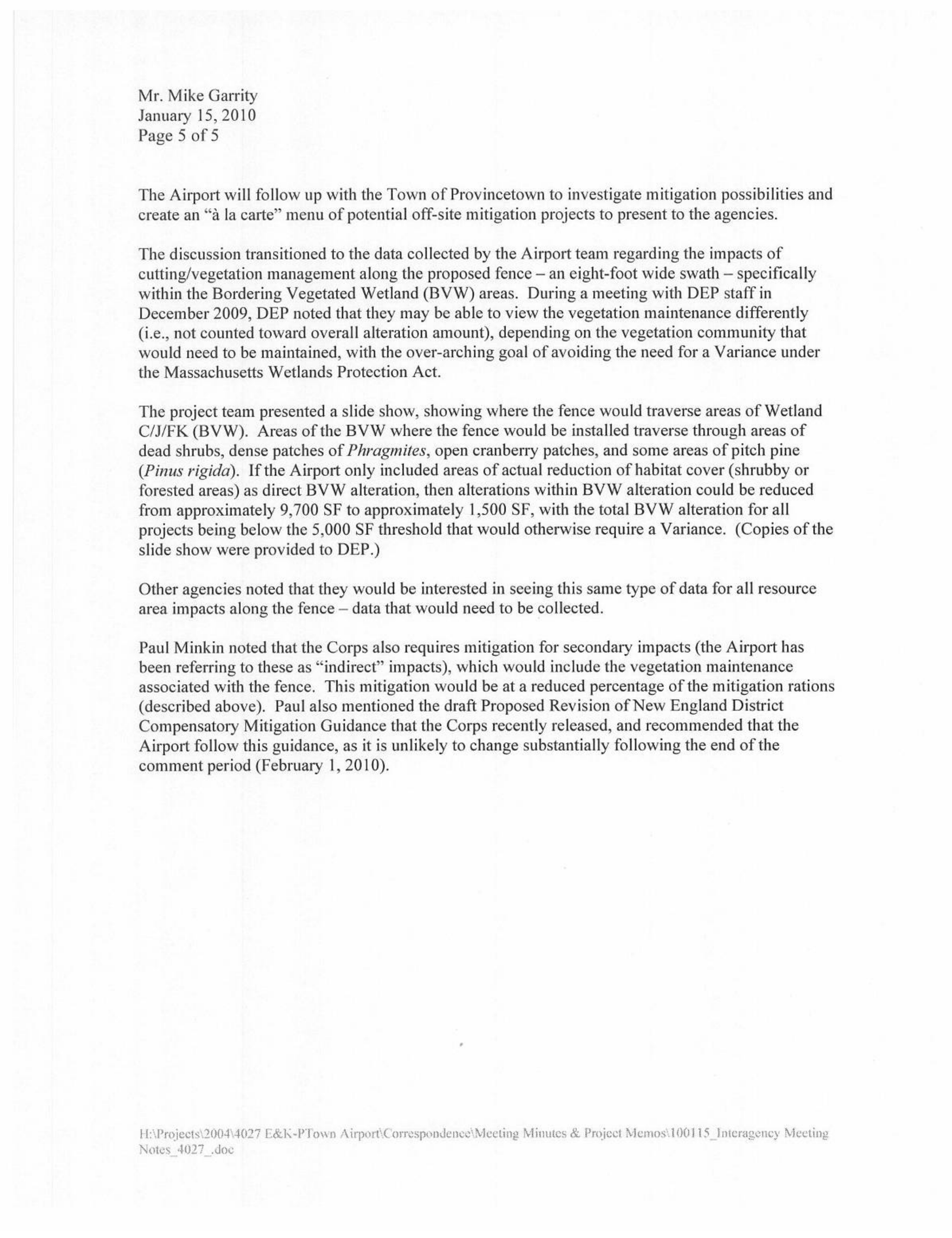


The Airport will follow up with the Town of Provincetown to investigate mitigation possibilities and create an "à la carte" menu of potential off-site mitigation projects to present to the agencies.

The discussion transitioned to the data collected by the Airport team regarding the impacts of cutting/vegetation management along the proposed fence – an eight-foot wide swath – specifically within the Bordering Vegetated Wetland (BVW) areas. During a meeting with DEP staff in December 2009, DEP noted that they may be able to view the vegetation maintenance differently (i.e., not counted toward overall alteration amount), depending on the vegetation community that would need to be maintained, with the over-arching goal of avoiding the need for a Variance under the Massachusetts Wetlands Protection Act.

The project team presented a slide show, showing where the fence would traverse areas of Wetland C/J/FK (BVW). Areas of the BVW where the fence would be installed traverse through areas of dead shrubs, dense patches of *Phragmites*, open cranberry patches, and some areas of pitch pine (*Pinus rigida*). If the Airport only included areas of actual reduction of habitat cover (shrubby or forested areas) as direct BVW alteration, then alterations within BVW alteration could be reduced from approximately 9,700 SF to approximately 1,500 SF, with the total BVW alteration for all projects being below the 5,000 SF threshold that would otherwise require a Variance. (Copies of the slide show were provided to DEP.)

Other agencies noted that they would be interested in seeing this same type of data for all resource area impacts along the fence – data that would need to be collected.

Paul Minkin noted that the Corps also requires mitigation for secondary impacts (the Airport has been referring to these as "indirect" impacts), which would include the vegetation maintenance associated with the fence. This mitigation would be at a reduced percentage of the mitigation rations (described above). Paul also mentioned the draft Proposed Revision of New England District Compensatory Mitigation Guidance that the Corps recently released, and recommended that the Airport follow this guidance, as it is unlikely to change substantially following the end of the comment period (February 1, 2010).

10.2 Public Participation

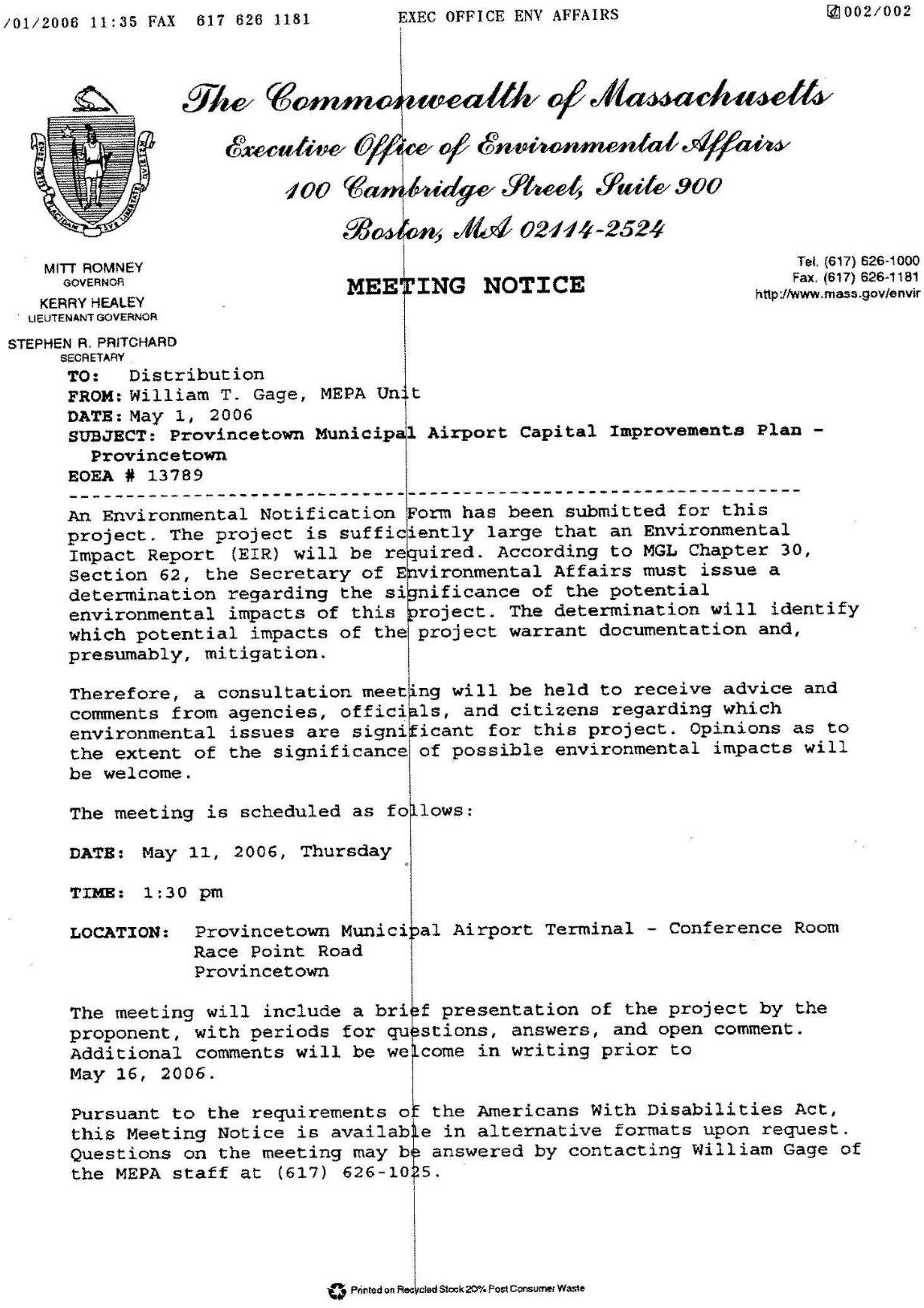
A public MEPA Scoping meeting for the DEIR was held at the Provincetown Airport on May 11, 2006. As determined by MEPA, there was no Public Hearing on the NPC/DEIR.

The Certificate on the Notice of Project Change/Draft Environmental Impact Report (NPC/DEIR) is provided in Section 13.

Additional opportunities for public participation were provided through the meetings of the Advisory Group during preparation of the Master Plan. The meetings with the Conservation Commission for the wetland boundary review(s) and the Notice of Intent for the Apron Reconstruction project were also public meetings and are discussed below in Section 10.3.

This section contains the following items:

- MEPA Meeting Notice, May 1, 2006 *(Page 10-67)*
- Public Notice, April 25, 2006 *(Page 10-69)*
- Minutes of MEPA Public Meeting, May 11, 2006 *(Page 10-71)*



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MEETING NOTICE

TO: Distribution
FROM: William T. Gage, MEPA Unit
DATE: May 1, 2006
SUBJECT: Provincetown Municipal Airport Capital Improvements Plan - Provincetown
EOEA # 13789

An Environmental Notification Form has been submitted for this project. The project is sufficiently large that an Environmental Impact Report (EIR) will be required. According to MGL Chapter 30, Section 62, the Secretary of Environmental Affairs must issue a determination regarding the significance of the potential environmental impacts of this project. The determination will identify which potential impacts of the project warrant documentation and, presumably, mitigation.

Therefore, a consultation meeting will be held to receive advice and comments from agencies, officials, and citizens regarding which environmental issues are significant for this project. Opinions as to the extent of the significance of possible environmental impacts will be welcome.

The meeting is scheduled as follows:

DATE: May 11, 2006, Thursday

TIME: 1:30 pm

LOCATION: Provincetown Municipal Airport Terminal - Conference Room
Race Point Road
Provincetown

The meeting will include a brief presentation of the project by the proponent, with periods for questions, answers, and open comment. Additional comments will be welcome in writing prior to May 16, 2006.

Pursuant to the requirements of the Americans With Disabilities Act, this Meeting Notice is available in alternative formats upon request. Questions on the meeting may be answered by contacting William Gage of the MEPA staff at (617) 626-1025.

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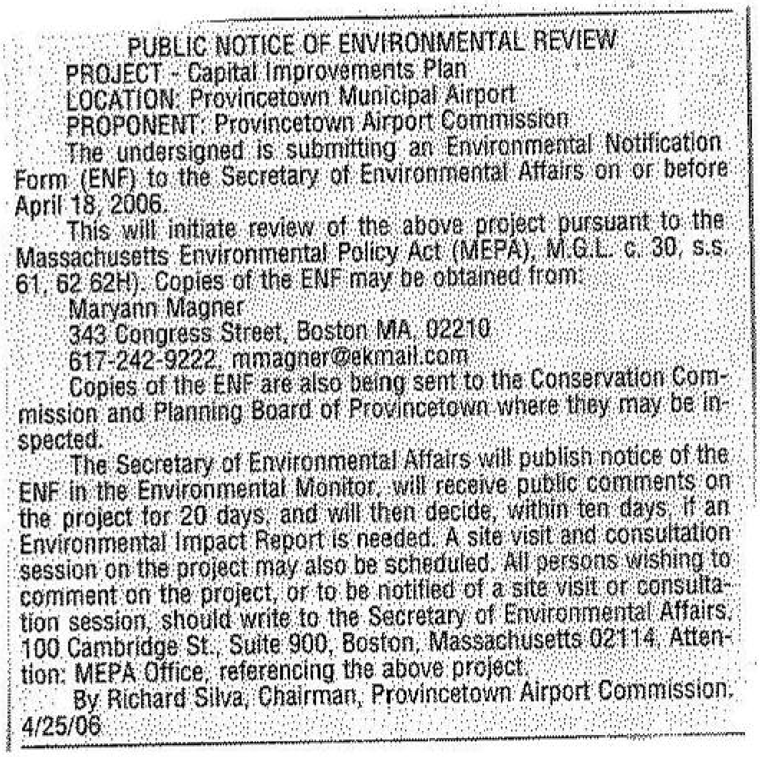
PROOF OF PUBLICATION

Date: 4/25/06



PUBLIC NOTICE OF ENVIRONMENTAL REVIEW
PROJECT - Capital Improvements Plan
LOCATION: Provincetown Municipal Airport
PROPONENT: Provincetown Airport Commission

The undersigned is submitting an Environmental Notification Form (ENF) to the Secretary of Environmental Affairs on or before April 18, 2006.

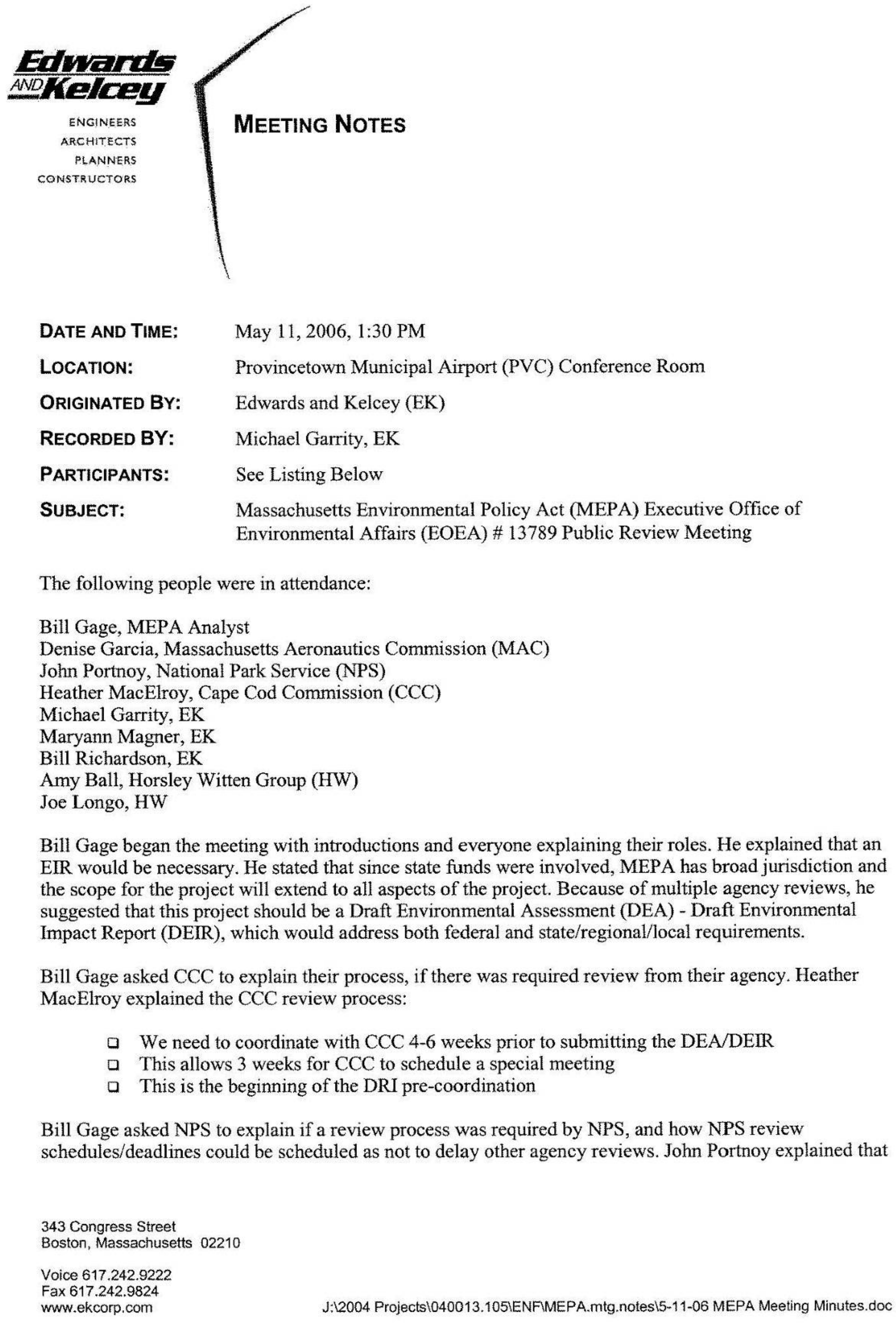
This will initiate review of the above project pursuant to the Massachusetts Environmental Policy Act (MEPA), M.G.L. c. 30, s.s. 61, 62 62H). Copies of the ENF may be obtained from:

Maryann Magner
343 Congress Street, Boston MA, 02210
617-242-9222, mmagner@ekmail.com

Copies of the ENF are also being sent to the Conservation Commission and Planning Board of Provincetown where they may be inspected.

The Secretary of Environmental Affairs will publish notice of the ENF in the Environmental Monitor, will receive public comments on the project for 20 days, and will then decide, within ten days, if an Environmental Impact Report is needed. A site visit and consultation session on the project may also be scheduled. All persons wishing to comment on the project, or to be notified of a site visit or consultation session, should write to the Secretary of Environmental Affairs, 100 Cambridge St., Suite 900, Boston, Massachusetts 02114. Attention: MEPA Office, referencing the above project.

By Richard Silva, Chairman, Provincetown Airport Commission.
4/25/06



Edwards AND Kelcey
ENGINEERS
ARCHITECTS
PLANNERS
CONSTRUCTORS

MEETING NOTES

DATE AND TIME: May 11, 2006, 1:30 PM
LOCATION: Provincetown Municipal Airport (PVC) Conference Room
ORIGINATED BY: Edwards and Kelcey (EK)
RECORDED BY: Michael Garrity, EK
PARTICIPANTS: See Listing Below
SUBJECT: Massachusetts Environmental Policy Act (MEPA) Executive Office of Environmental Affairs (EOEA) # 13789 Public Review Meeting

The following people were in attendance:

Bill Gage, MEPA Analyst
Denise Garcia, Massachusetts Aeronautics Commission (MAC)
John Portnoy, National Park Service (NPS)
Heather MacElroy, Cape Cod Commission (CCC)
Michael Garrity, EK
Maryann Magner, EK
Bill Richardson, EK
Amy Ball, Horsley Witten Group (HW)
Joe Longo, HW

Bill Gage began the meeting with introductions and everyone explaining their roles. He explained that an EIR would be necessary. He stated that since state funds were involved, MEPA has broad jurisdiction and the scope for the project will extend to all aspects of the project. Because of multiple agency reviews, he suggested that this project should be a Draft Environmental Assessment (DEA) - Draft Environmental Impact Report (DEIR), which would address both federal and state/regional/local requirements.

Bill Gage asked CCC to explain their process, if there was required review from their agency. Heather MacElroy explained the CCC review process:

- We need to coordinate with CCC 4-6 weeks prior to submitting the DEA/DEIR
- This allows 3 weeks for CCC to schedule a special meeting
- This is the beginning of the DRI pre-coordination

Bill Gage asked NPS to explain if a review process was required by NPS, and how NPS review schedules/deadlines could be scheduled as not to delay other agency reviews. John Portnoy explained that

343 Congress Street
Boston, Massachusetts 02210

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Fax 617.242.9824
www.ekcorp.com

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NPS was a "Cooperating Agency" in this project in order for the NPS to issue a Special Use Permit (SUP) to the Airport. Bill Gage asked what the NPS meeting schedules and deadline dates were and John Portnoy said he was not a regulatory person and would need the correct NPS staff to respond. Maryann Magner reported that Michelle Ricci, of the Federal Aviation Administration (FAA) stated, at the Advisory Group Meeting for the PVC Master Plan, that FAA would be the only agency preparing the EA. Maryann suggested that FAA and NPS would likely have a conversation regarding this issue. Bill closed this subject by stating that we should have agency reviews in mind while preparing the DEA/DEIR, so no deadlines are missed, delaying the process.

Bill Gage explained that the comment period closes on May 16th, and a Certificate will be issued May 26th. All comments should reference the EOEA# 13789 and be addressed to Mr. Richard Prichard. He pointed out that this would be the only public meeting for MEPA. There would not be a public hearing at the submission of the DEIR. He then asked Maryann to describe the projects, as proposed in the Environmental Notification Form (ENF).

Maryann gave a brief overview of the airport, the facility, the operating conditions, and the National Seashore surrounding environment. She continued to describe each project element and gave a briefing on alternatives that were discussed in the Master Plan. She gave Bill Gage a copy of the Airport's Master Plan to show what alternatives were shown for each project element.

Bill Gage explained that the following areas where he would need to see more detailed analysis for each proposed project:

- ☐ Document the need with numbers and/or photos
- ☐ Wildlife movements and potential corridors
- ☐ Wetland disturbance reductions where feasible
- ☐ FAA requirements (which requirements can get waivers)
- ☐ Minimization of environmental impacts wherever possible
- ☐ Address wetland and tidal flow concerns

Bill Gage advised that the EIR should be detailed enough to address all the issues and the requirements of the various agencies that will review the projects. The purpose and need should clearly identify what FAA requirements must be met and what the limiting factors are for these requirements. The following Permits/Reviews would likely be necessary to construct the projects proposed in the ENF:

- ☐ Department of Environmental Protection (DEP) Wetlands Protection Act (WPA) Wetlands Variance
- ☐ U.S. Army Corps of Engineers (USACE) Section 401 Water Quality Certificate
- ☐ Mass. Endangered Species Project Review
- ☐ Order of Conditions from the local Conservation Commission
- ☐ NPS SUP
- ☐ U.S. Environmental Protection Agency (USEPA) National Pollutant Discharge Elimination System (NPDES) Permit
- ☐ USACE Section 404 Stormwater Permit
- ☐ CCC Development of Regional Impact (DRI)

Bill Gage proceeded to give a preliminary indication of the scope he would be issuing. The scope of work for the EIR should include the following, at a minimum.

1. Purpose and Need
   - ☐ Project descriptions with a list of all permits necessary
   - ☐ FAA requirements vs. potential waiver issues should be resolved
2. Alternatives Analysis
   - ☐ Preferred Alternative, No Build Alternative, and any other Alternatives
3. Traffic Section
   - ☐ Traffic counts at Route 6/Racepoint Road intersection and at Airport parking lot entrance
   - ☐ Institute of Transportation Engineers (ITE) – how much traffic will be generated by the airport
   - ☐ See if we can get NPS traffic counts
   - ☐ Transportation Demand Measures (TDM) must be addressed thoroughly
4. Noise Contours
   - ☐ New noise contours should be developed for existing and future (20 year) operations
5. Wetlands – standard scope
   - ☐ Worst case scenarios should be used for each project element
   - ☐ BVW – MEPA will use 1.5 to 1 for replication
   - ☐ Dune replication areas – Should be creative

   NPS additional requests:
   - ☐ Evaluate presence of creeks, model tidal flows, address salt marsh surface and subsurface water action.
   - ☐ Evaluate impacts seaward of earthen berm (fence alignment)
   - ☐ Evaluate habitat impacts in wetland areas
6. Wildlife
   - ☐ Careful consideration and evaluation of habitats, corridors, and wildlife crossings because of the extensive area to be enclosed.
7. Drainage – standard stormwater
8. Drinking water
   - ☐ Condition of current water supply system (i.e. Looped system or single feed), and evaluate adequacy for existing and future
   - ☐ Condition of Title 5 system, and evaluate adequacy for existing and future
9. Hazardous Waste
   - ☐ Research previous spills
   - ☐ Conditions and actions taken for existing and future preventative measures (SPCCP)
10. Visual Aesthetics
    - ☐ NPS requirements
    - ☐ CCC requirements
    - ☐ Thorough evaluation of fence for visual impacts during installation, with the fence alignment, and with vegetation management to maintain and patrol fence line
    - ☐ Evaluate the change in landscape due to each project
11. Construction Issues
    - ☐ Impacts during the construction of each project element
    - ☐ Mitigation measures to reduce construction impacts
    - ☐ Construction impacts should be extended to address periodic maintenance of specific project elements

12. Terminal Building
    - ☐ Show actual design alternatives
    - ☐ NPS commented that the footprint should not be increased
13. Mitigation Section – standard information on mitigation
14. Response to Comments – standard format
15. Special Circulation – None required

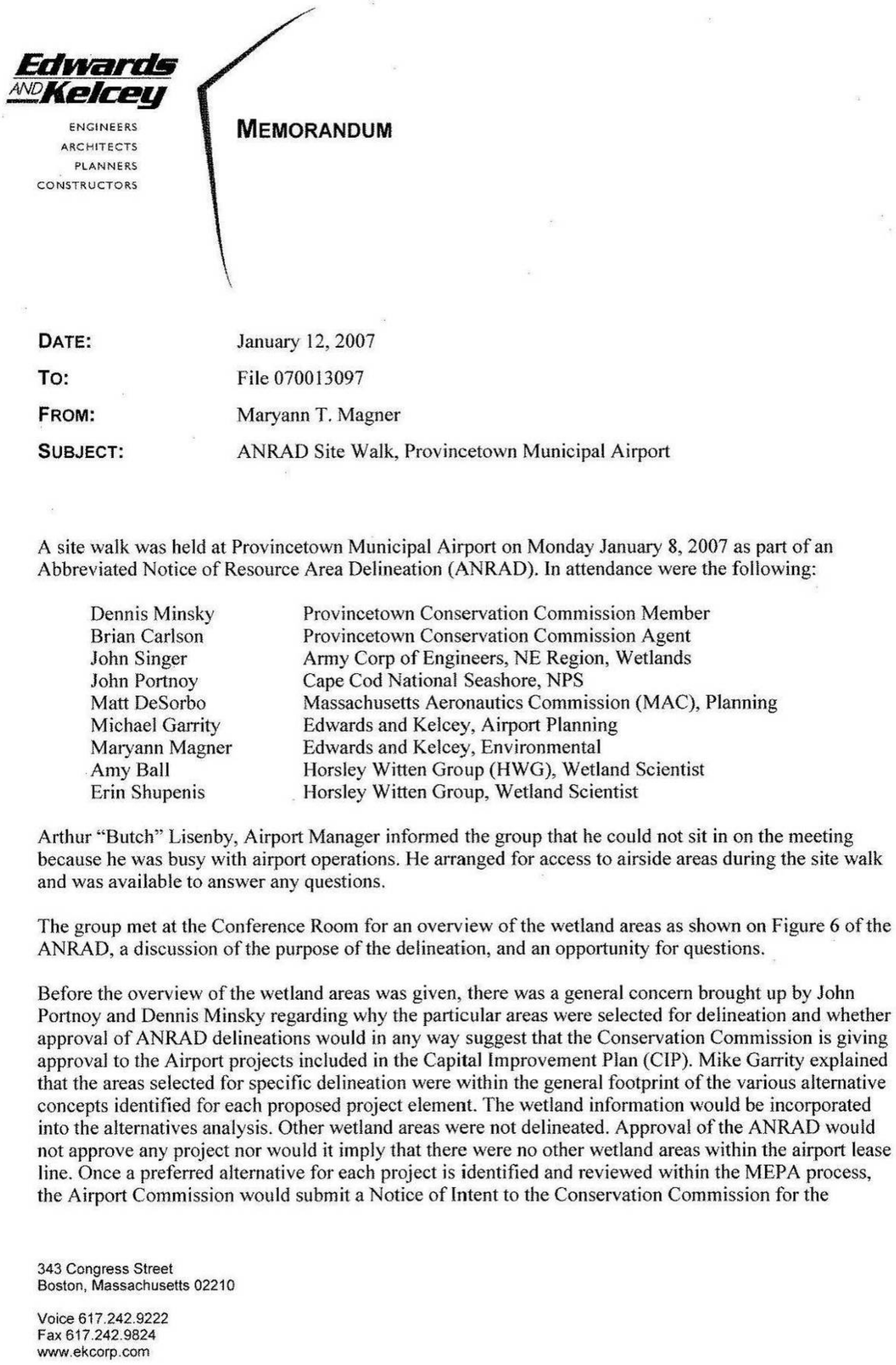
Bill Gage will review EIR requirements for Norwood Memorial Airport, Martha's Vineyard Airport, and Nantucket Memorial Airport before he submits a Certificate from the Secretary of Environmental Affairs for EOEA# 13789.

After the meeting was adjourned, Bill Gage was given a site walk of the Airport.

10.3 Wetland Delineation Review and Permitting Process

This section contains the following items:

- Minutes for January 8, 2007 Site Walk with Conservation Commission. *(Page 10-77)*
- Order of Resource Area Delineation issued by the Provincetown Conservation Commission, January 25, 2007 *(Page 10-81)*
- Order of Resource Area Delineation issued by the Provincetown Conservation Commission, October 17, 2007 *(Page 10-85)*
- NHESP Letter on the Terminal Apron Reconstruction Project Notice of Intent, March 7, 2008 *(Page 10-93)*
- Order of Conditions issued by the Provincetown Conservation Commission for the Terminal Apron Reconstruction Project, April 1, 2008 *(Page 10-95)*
- Order of Resource Area Delineation issued by the Provincetown Conservation Commission, January 12, 2010 *(Page 10-105)*



Edwards and Kelcey
ENGINEERS
ARCHITECTS
PLANNERS
CONSTRUCTORS

MEMORANDUM

DATE: January 12, 2007

TO: File 070013097

FROM: Maryann T. Magner

SUBJECT: ANRAD Site Walk, Provincetown Municipal Airport

A site walk was held at Provincetown Municipal Airport on Monday January 8, 2007 as part of an Abbreviated Notice of Resource Area Delineation (ANRAD). In attendance were the following:

Dennis Minsky	Provincetown Conservation Commission Member
Brian Carlson	Provincetown Conservation Commission Agent
John Singer	Army Corp of Engineers, NE Region, Wetlands
John Portnoy	Cape Cod National Seashore, NPS
Matt DeSorbo	Massachusetts Aeronautics Commission (MAC), Planning
Michael Garrity	Edwards and Kelcey, Airport Planning
Maryann Magner	Edwards and Kelcey, Environmental
Amy Ball	Horsley Witten Group (HWG), Wetland Scientist
Erin Shupenis	Horsley Witten Group, Wetland Scientist

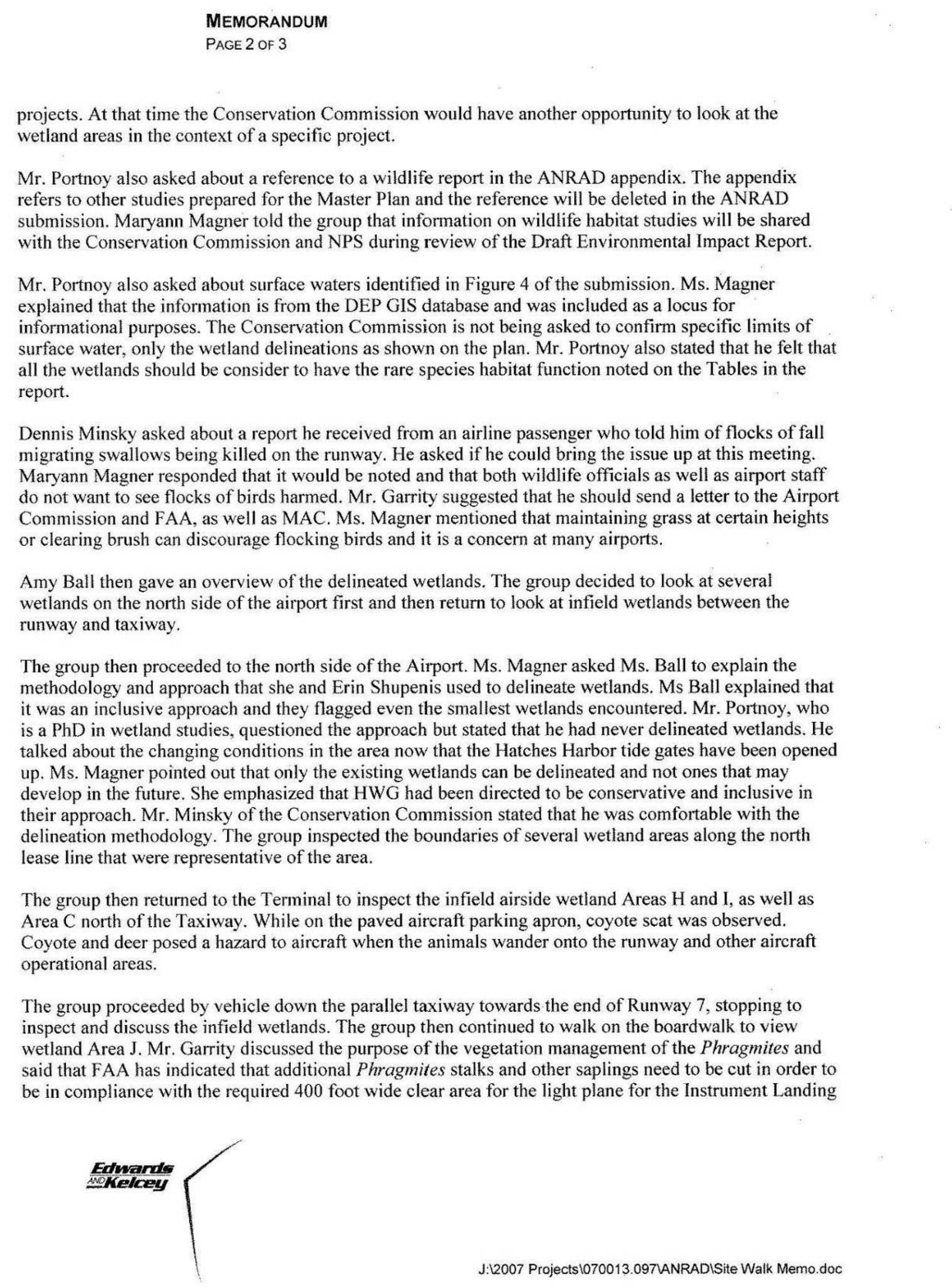
Arthur "Butch" Lisenby, Airport Manager informed the group that he could not sit in on the meeting because he was busy with airport operations. He arranged for access to airside areas during the site walk and was available to answer any questions.

The group met at the Conference Room for an overview of the wetland areas as shown on Figure 6 of the ANRAD, a discussion of the purpose of the delineation, and an opportunity for questions.

Before the overview of the wetland areas was given, there was a general concern brought up by John Portnoy and Dennis Minsky regarding why the particular areas were selected for delineation and whether approval of ANRAD delineations would in any way suggest that the Conservation Commission is giving approval to the Airport projects included in the Capital Improvement Plan (CIP). Mike Garrity explained that the areas selected for specific delineation were within the general footprint of the various alternative concepts identified for each proposed project element. The wetland information would be incorporated into the alternatives analysis. Other wetland areas were not delineated. Approval of the ANRAD would not approve any project nor would it imply that there were no other wetland areas within the airport lease line. Once a preferred alternative for each project is identified and reviewed within the MEPA process, the Airport Commission would submit a Notice of Intent to the Conservation Commission for the

343 Congress Street
Boston, Massachusetts 02210

Voice 617.242.9222
Fax 617.242.9824
www.ekcorp.com



projects. At that time the Conservation Commission would have another opportunity to look at the wetland areas in the context of a specific project.

Mr. Portnoy also asked about a reference to a wildlife report in the ANRAD appendix. The appendix refers to other studies prepared for the Master Plan and the reference will be deleted in the ANRAD submission. Maryann Magner told the group that information on wildlife habitat studies will be shared with the Conservation Commission and NPS during review of the Draft Environmental Impact Report.

Mr. Portnoy also asked about surface waters identified in Figure 4 of the submission. Ms. Magner explained that the information is from the DEP GIS database and was included as a locus for informational purposes. The Conservation Commission is not being asked to confirm specific limits of surface water, only the wetland delineations as shown on the plan. Mr. Portnoy also stated that he felt that all the wetlands should be consider to have the rare species habitat function noted on the Tables in the report.

Dennis Minsky asked about a report he received from an airline passenger who told him of flocks of fall migrating swallows being killed on the runway. He asked if he could bring the issue up at this meeting. Maryann Magner responded that it would be noted and that both wildlife officials as well as airport staff do not want to see flocks of birds harmed. Mr. Garrity suggested that he should send a letter to the Airport Commission and FAA, as well as MAC. Ms. Magner mentioned that maintaining grass at certain heights or clearing brush can discourage flocking birds and it is a concern at many airports.

Amy Ball then gave an overview of the delineated wetlands. The group decided to look at several wetlands on the north side of the airport first and then return to look at infield wetlands between the runway and taxiway.

The group then proceeded to the north side of the Airport. Ms. Magner asked Ms. Ball to explain the methodology and approach that she and Erin Shupenis used to delineate wetlands. Ms Ball explained that it was an inclusive approach and they flagged even the smallest wetlands encountered. Mr. Portnoy, who is a PhD in wetland studies, questioned the approach but stated that he had never delineated wetlands. He talked about the changing conditions in the area now that the Hatches Harbor tide gates have been opened up. Ms. Magner pointed out that only the existing wetlands can be delineated and not ones that may develop in the future. She emphasized that HWG had been directed to be conservative and inclusive in their approach. Mr. Minsky of the Conservation Commission stated that he was comfortable with the delineation methodology. The group inspected the boundaries of several wetland areas along the north lease line that were representative of the area.

The group then returned to the Terminal to inspect the infield airside wetland Areas H and I, as well as Area C north of the Taxiway. While on the paved aircraft parking apron, coyote scat was observed. Coyote and deer posed a hazard to aircraft when the animals wander onto the runway and other aircraft operational areas.

The group proceeded by vehicle down the parallel taxiway towards the end of Runway 7, stopping to inspect and discuss the infield wetlands. The group then continued to walk on the boardwalk to view wetland Area J. Mr. Garrity discussed the purpose of the vegetation management of the *Phragmites* and said that FAA has indicated that additional *Phragmites* stalks and other saplings need to be cut in order to be in compliance with the required 400 foot wide clear area for the light plane for the Instrument Landing

System (ILS) approach. While the group was at the end of RW 7, Ms. Ball led the group to the glide slope area to view another representative wetland area.

The group then left the restricted airside area and proceeded to wetlands near Runway 25, using the bike path as access. Ms. discussed the different vegetation and pointed out that scrub pine, surface staining, and carpets of cranberry were defining characteristics. The group then walked towards the runway to view the managed wetland areas adjacent to the runway. Two unidentified individuals were observed walking across the airfield at the Runway 25 end. It was later confirmed by the Manager that these individuals were not employees and were unauthorized to be on the airfield.

At this point Ms. Magner asked the representatives of the Conservation Commission if they would like to see any other areas. Mr. Minsky stated that he was satisfied with the methodology and felt comfortable with the delineation as shown on the plan.

Ms. Magner then thanked the group for coming to the site walk, especially on such a windy, rainy day. She also thanked Ms. Ball and Ms. Shupenis for the informative site walk and their thorough delineation effort.

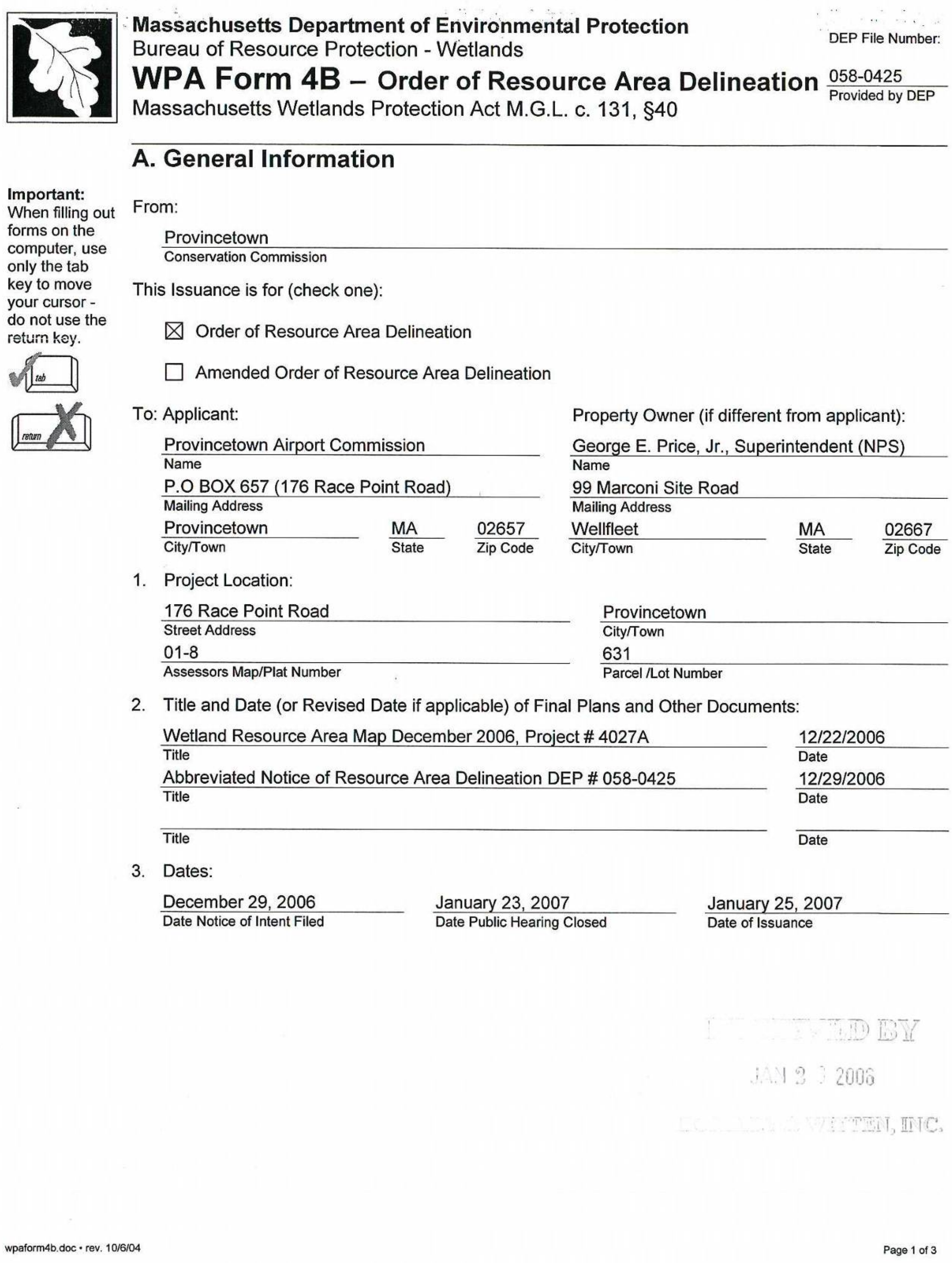
The group then discussed the next steps in the process. Ms. Ball will draft a letter for the Conservation Commission relative to the minor changes to the Appendix for the ANRAD submission as discussed above. Mr. Minsky and Mr. Sargent indicated that no changes to the plan were needed. The Public Hearing for the ANRAD is scheduled for Tuesday January 23, 2007 at 6:30 PM.

John Sargent of the Corps said that he would draft a letter explaining the Corps jurisdiction and his attendance at the site walk. Ms. Magner said she would follow up on the coordination with FAA and the Corps.

This concluded the site walk.

The sign in sheet is attached.

Note: The Public Hearing for the ANRAD was held on January 23, 2007. At that meeting the Commission voted to approve the wetland delineation as shown on the plans.



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
WPA Form 4B – Order of Resource Area Delineation
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

DEP File Number:
058-0425
Provided by DEP

A. General Information

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.

From:

Provincetown
Conservation Commission

This Issuance is for (check one):

☒ Order of Resource Area Delineation

☐ Amended Order of Resource Area Delineation

To: Applicant:	Property Owner (if different from applicant):
Name: Provincetown Airport Commission	Name: George E. Price, Jr., Superintendent (NPS)
Mailing Address: P.O BOX 657 (176 Race Point Road)	Mailing Address: 99 Marconi Site Road
City/Town: Provincetown; State: MA; Zip Code: 02657	City/Town: Wellfleet; State: MA; Zip Code: 02667

1. Project Location:

Street Address: 176 Race Point Road
City/Town: Provincetown
Assessors Map/Plat Number: 01-8
Parcel /Lot Number: 631

2. Title and Date (or Revised Date if applicable) of Final Plans and Other Documents:

Title	Date
Wetland Resource Area Map December 2006, Project # 4027A	12/22/2006
Abbreviated Notice of Resource Area Delineation DEP # 058-0425	12/29/2006

3. Dates:

Date Notice of Intent Filed	Date Public Hearing Closed	Date of Issuance
December 29, 2006	January 23, 2007	January 25, 2007

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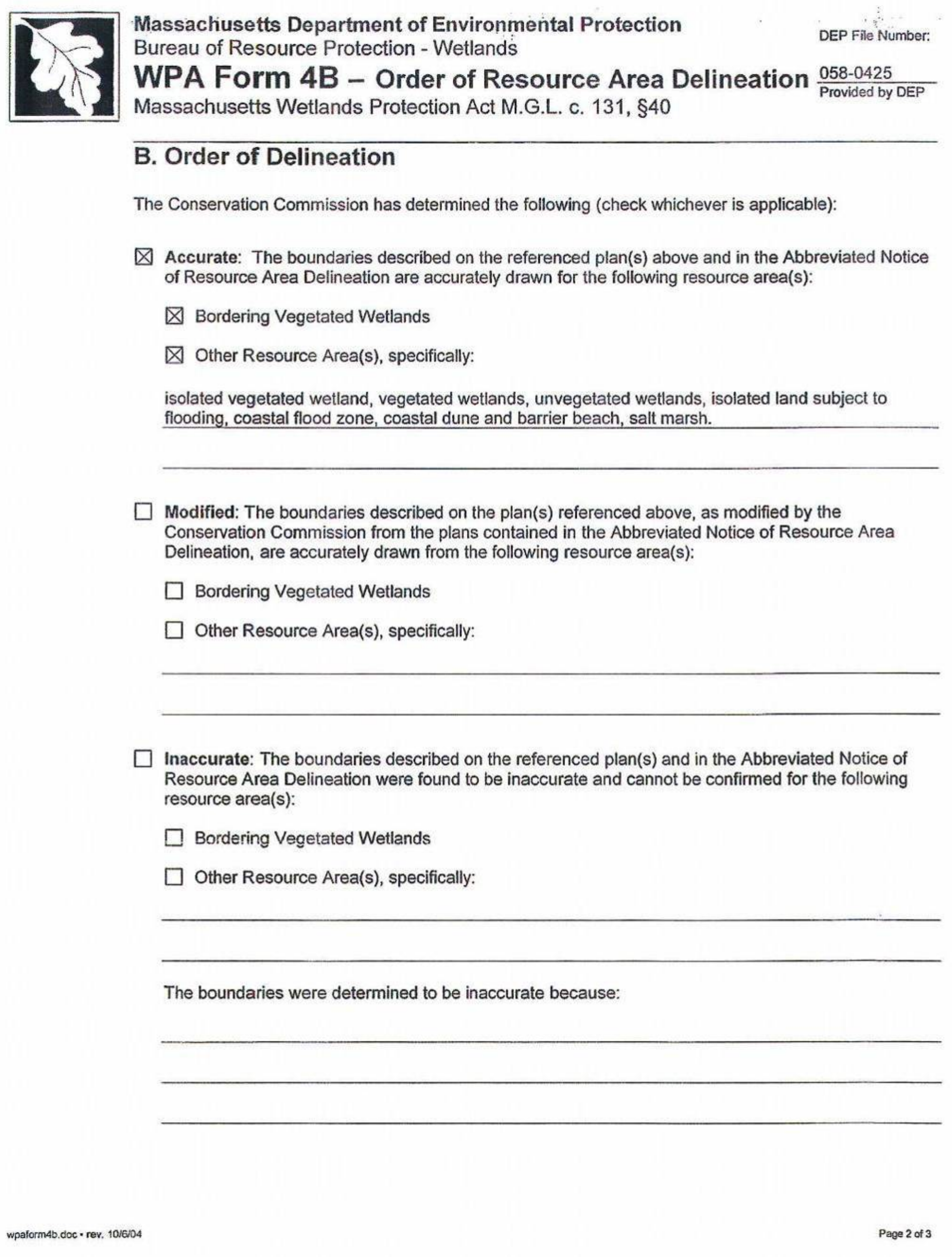

Massachusetts Department of Environmental Protection
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Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

DEP File Number:
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B. Order of Delineation

The Conservation Commission has determined the following (check whichever is applicable):

☒ **Accurate**: The boundaries described on the referenced plan(s) above and in the Abbreviated Notice of Resource Area Delineation are accurately drawn for the following resource area(s):

☒ Bordering Vegetated Wetlands

☒ Other Resource Area(s), specifically:

isolated vegetated wetland, vegetated wetlands, unvegetated wetlands, isolated land subject to flooding, coastal flood zone, coastal dune and barrier beach, salt marsh.

☐ **Modified**: The boundaries described on the plan(s) referenced above, as modified by the Conservation Commission from the plans contained in the Abbreviated Notice of Resource Area Delineation, are accurately drawn from the following resource area(s):

☐ Bordering Vegetated Wetlands

☐ Other Resource Area(s), specifically:

☐ **Inaccurate**: The boundaries described on the referenced plan(s) and in the Abbreviated Notice of Resource Area Delineation were found to be inaccurate and cannot be confirmed for the following resource area(s):

☐ Bordering Vegetated Wetlands

☐ Other Resource Area(s), specifically:

The boundaries were determined to be inaccurate because:

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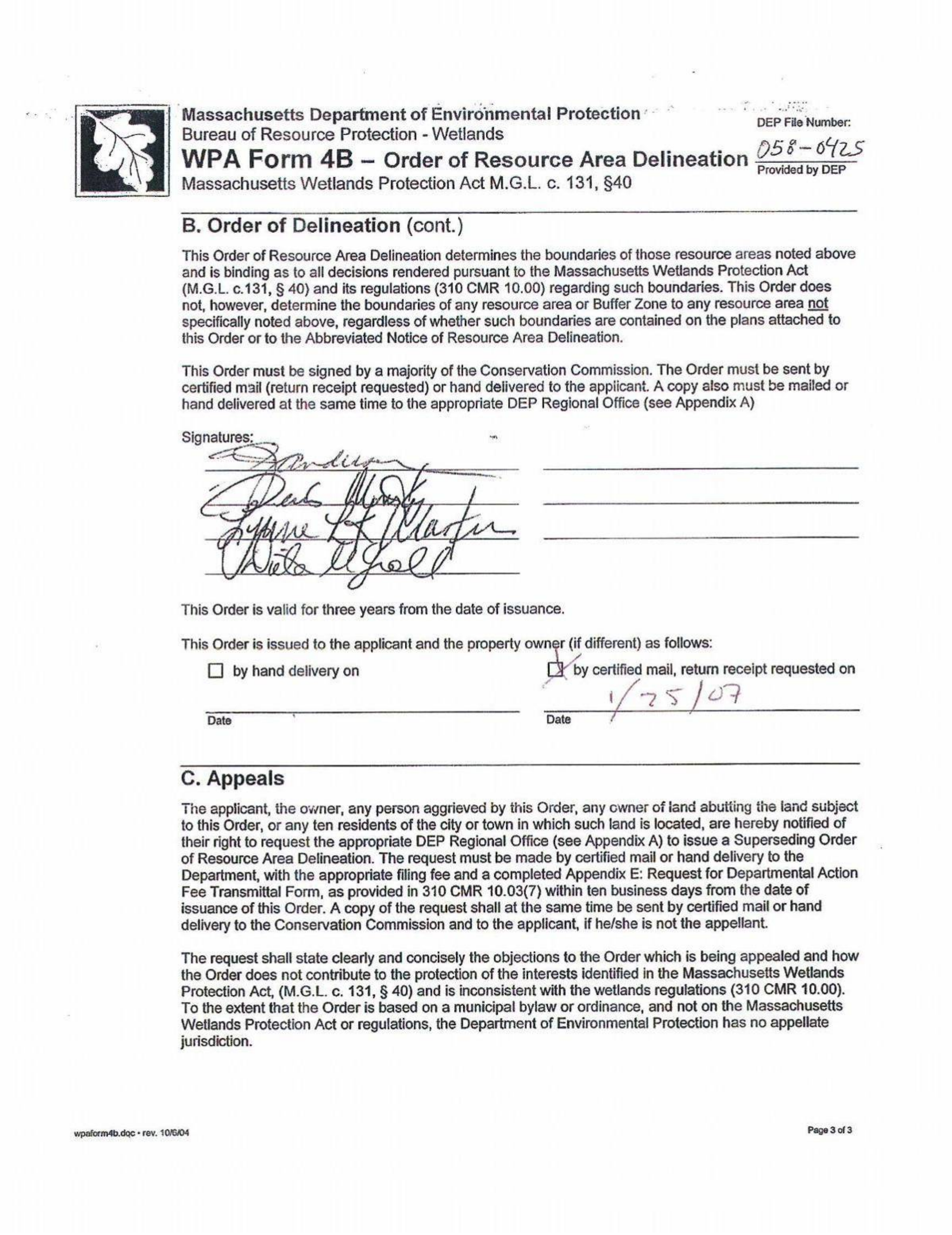

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
WPA Form 4B – Order of Resource Area Delineation
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

DEP File Number:
058-0425
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B. Order of Delineation (cont.)

This Order of Resource Area Delineation determines the boundaries of those resource areas noted above and is binding as to all decisions rendered pursuant to the Massachusetts Wetlands Protection Act (M.G.L. c.131, § 40) and its regulations (310 CMR 10.00) regarding such boundaries. This Order does not, however, determine the boundaries of any resource area or Buffer Zone to any resource area not specifically noted above, regardless of whether such boundaries are contained on the plans attached to this Order or to the Abbreviated Notice of Resource Area Delineation.

This Order must be signed by a majority of the Conservation Commission. The Order must be sent by certified mail (return receipt requested) or hand delivered to the applicant. A copy also must be mailed or hand delivered at the same time to the appropriate DEP Regional Office (see Appendix A)

Signatures:

This Order is valid for three years from the date of issuance.

This Order is issued to the applicant and the property owner (if different) as follows:

☐ by hand delivery on

Date

☒ by certified mail, return receipt requested on

1/25/07
Date

C. Appeals

The applicant, the owner, any person aggrieved by this Order, any owner of land abutting the land subject to this Order, or any ten residents of the city or town in which such land is located, are hereby notified of their right to request the appropriate DEP Regional Office (see Appendix A) to issue a Superseding Order of Resource Area Delineation. The request must be made by certified mail or hand delivery to the Department, with the appropriate filing fee and a completed Appendix E: Request for Departmental Action Fee Transmittal Form, as provided in 310 CMR 10.03(7) within ten business days from the date of issuance of this Order. A copy of the request shall at the same time be sent by certified mail or hand delivery to the Conservation Commission and to the applicant, if he/she is not the appellant.

The request shall state clearly and concisely the objections to the Order which is being appealed and how the Order does not contribute to the protection of the interests identified in the Massachusetts Wetlands Protection Act, (M.G.L. c. 131, § 40) and is inconsistent with the wetlands regulations (310 CMR 10.00). To the extent that the Order is based on a municipal bylaw or ordinance, and not on the Massachusetts Wetlands Protection Act or regulations, the Department of Environmental Protection has no appellate jurisdiction.

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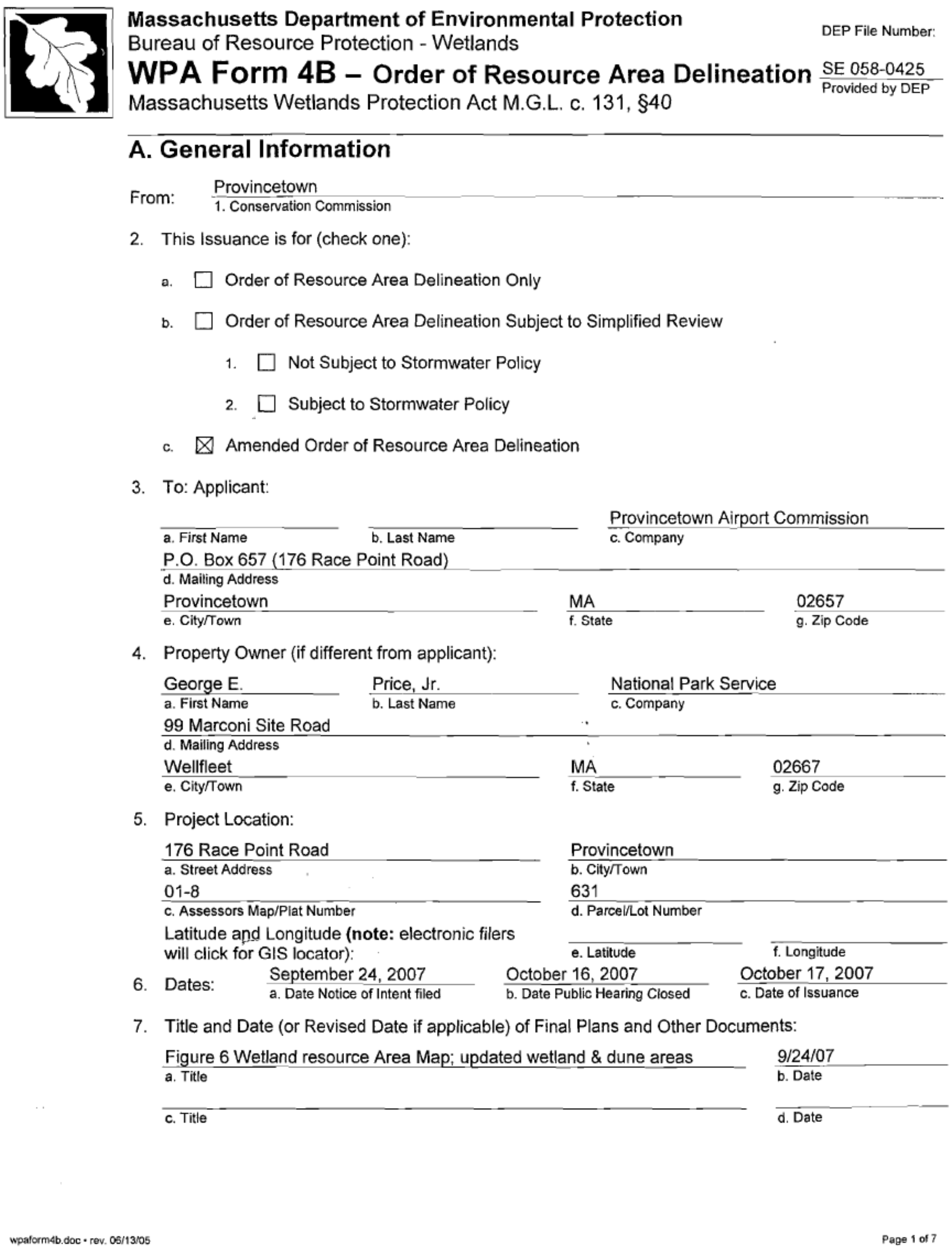

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
WPA Form 4B – Order of Resource Area Delineation
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

DEP File Number:
SE 058-0425
Provided by DEP

A. General Information

From: Provincetown
1. Conservation Commission

2. This Issuance is for (check one):

- a. ☐ Order of Resource Area Delineation Only
- b. ☐ Order of Resource Area Delineation Subject to Simplified Review
  - 1. ☐ Not Subject to Stormwater Policy
  - 2. ☐ Subject to Stormwater Policy
- c. ☒ Amended Order of Resource Area Delineation

3. To: Applicant:

a. First Name:
b. Last Name:
c. Company: Provincetown Airport Commission
d. Mailing Address: P.O. Box 657 (176 Race Point Road)
e. City/Town: Provincetown
f. State: MA
g. Zip Code: 02657

4. Property Owner (if different from applicant):

a. First Name: George E.
b. Last Name: Price, Jr.
c. Company: National Park Service
d. Mailing Address: 99 Marconi Site Road
e. City/Town: Wellfleet
f. State: MA
g. Zip Code: 02667

5. Project Location:

a. Street Address: 176 Race Point Road
b. City/Town: Provincetown
c. Assessors Map/Plat Number: 01-8
d. Parcel/Lot Number: 631
Latitude and Longitude (**note:** electronic filers will click for GIS locator):
e. Latitude:
f. Longitude:

6. Dates:
a. Date Notice of Intent filed: September 24, 2007
b. Date Public Hearing Closed: October 16, 2007
c. Date of Issuance: October 17, 2007

7. Title and Date (or Revised Date if applicable) of Final Plans and Other Documents:

a. Title: Figure 6 Wetland resource Area Map; updated wetland & dune areas
b. Date: 9/24/07
c. Title:
d. Date:

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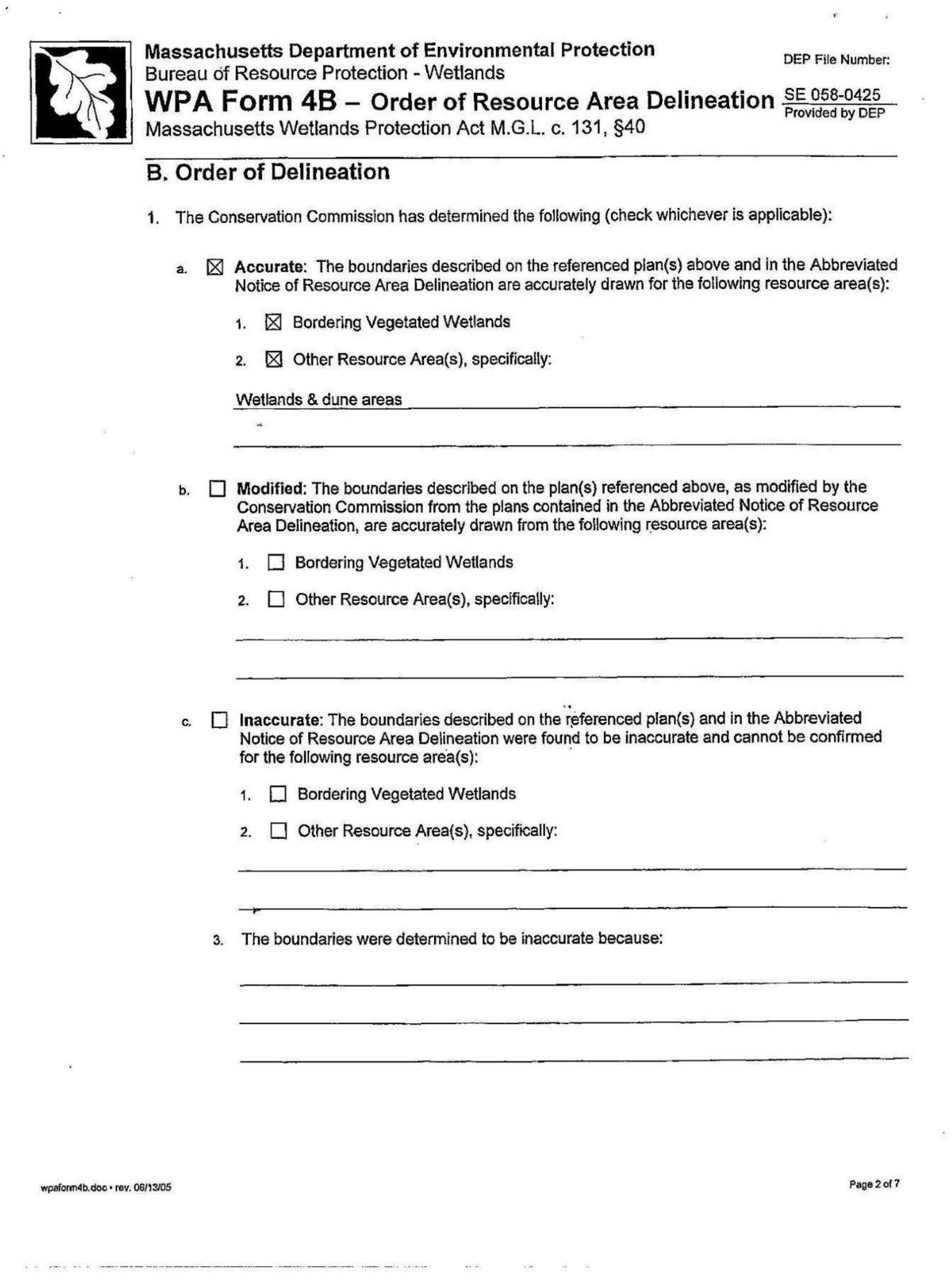

Massachusetts Department of Environmental Protection
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WPA Form 4B – Order of Resource Area Delineation
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

DEP File Number:
SE 058-0425
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B. Order of Delineation

1. The Conservation Commission has determined the following (check whichever is applicable):

a. ☒ **Accurate:** The boundaries described on the referenced plan(s) above and in the Abbreviated Notice of Resource Area Delineation are accurately drawn for the following resource area(s):

1. ☒ Bordering Vegetated Wetlands
2. ☒ Other Resource Area(s), specifically:

Wetlands & dune areas

b. ☐ **Modified:** The boundaries described on the plan(s) referenced above, as modified by the Conservation Commission from the plans contained in the Abbreviated Notice of Resource Area Delineation, are accurately drawn from the following resource area(s):

1. ☐ Bordering Vegetated Wetlands
2. ☐ Other Resource Area(s), specifically:

c. ☐ **Inaccurate:** The boundaries described on the referenced plan(s) and in the Abbreviated Notice of Resource Area Delineation were found to be inaccurate and cannot be confirmed for the following resource area(s):

1. ☐ Bordering Vegetated Wetlands
2. ☐ Other Resource Area(s), specifically:

3. The boundaries were determined to be inaccurate because:

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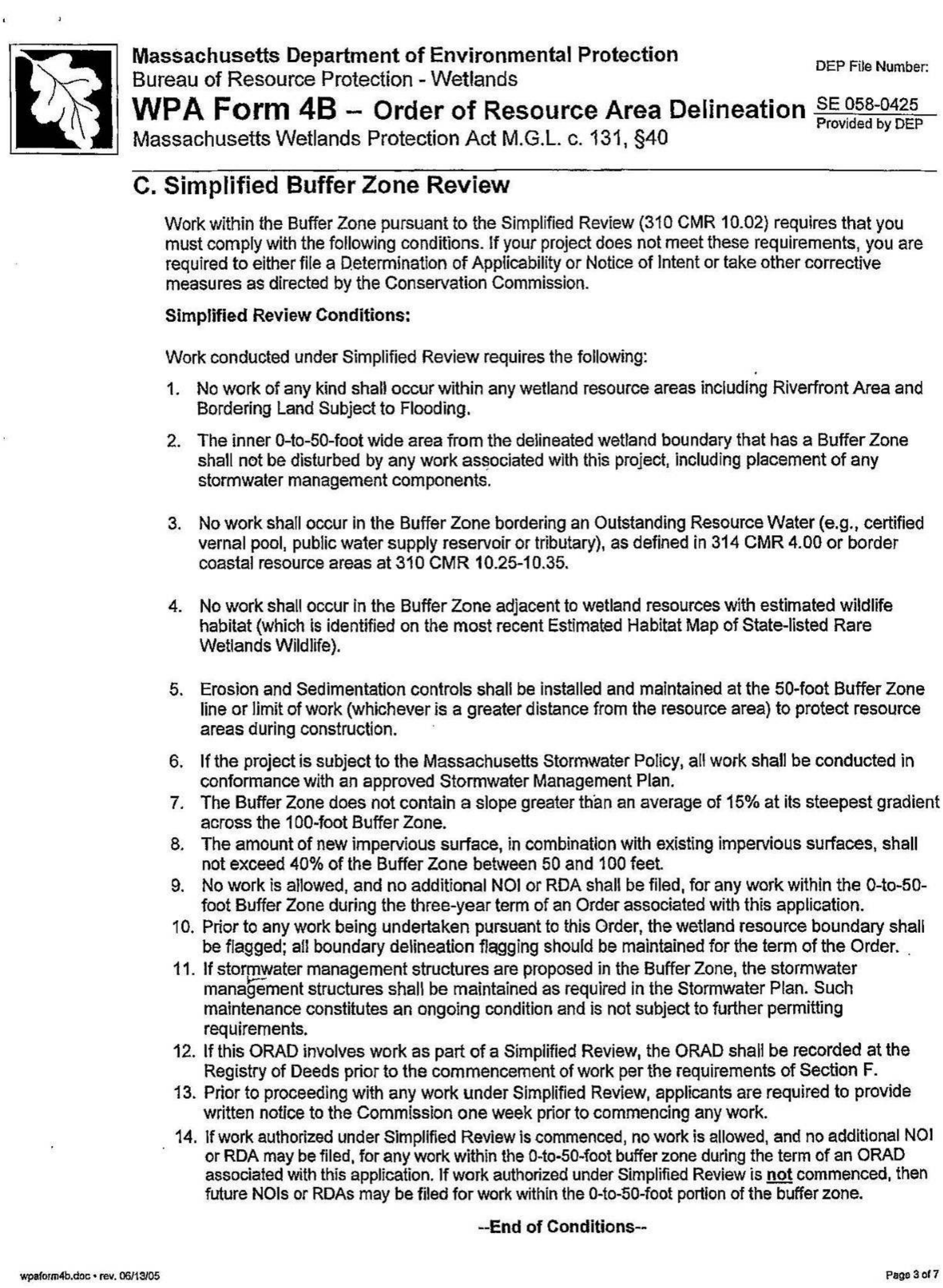

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C. Simplified Buffer Zone Review

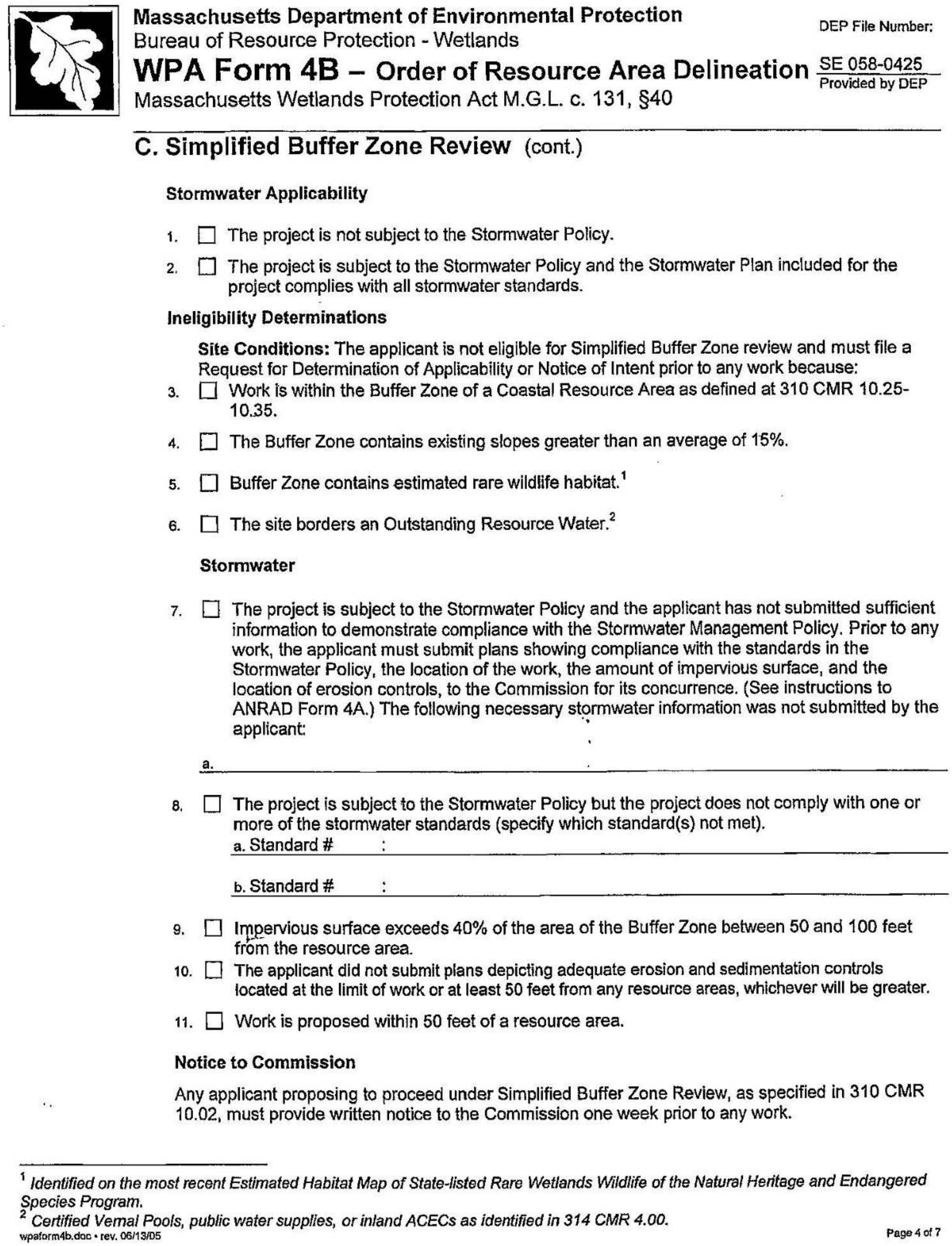
Work within the Buffer Zone pursuant to the Simplified Review (310 CMR 10.02) requires that you must comply with the following conditions. If your project does not meet these requirements, you are required to either file a Determination of Applicability or Notice of Intent or take other corrective measures as directed by the Conservation Commission.

Simplified Review Conditions:

Work conducted under Simplified Review requires the following:

1. No work of any kind shall occur within any wetland resource areas including Riverfront Area and Bordering Land Subject to Flooding.
2. The inner 0-to-50-foot wide area from the delineated wetland boundary that has a Buffer Zone shall not be disturbed by any work associated with this project, including placement of any stormwater management components.
3. No work shall occur in the Buffer Zone bordering an Outstanding Resource Water (e.g., certified vernal pool, public water supply reservoir or tributary), as defined in 314 CMR 4.00 or border coastal resource areas at 310 CMR 10.25-10.35.
4. No work shall occur in the Buffer Zone adjacent to wetland resources with estimated wildlife habitat (which is identified on the most recent Estimated Habitat Map of State-listed Rare Wetlands Wildlife).
5. Erosion and Sedimentation controls shall be installed and maintained at the 50-foot Buffer Zone line or limit of work (whichever is a greater distance from the resource area) to protect resource areas during construction.
6. If the project is subject to the Massachusetts Stormwater Policy, all work shall be conducted in conformance with an approved Stormwater Management Plan.
7. The Buffer Zone does not contain a slope greater than an average of 15% at its steepest gradient across the 100-foot Buffer Zone.
8. The amount of new impervious surface, in combination with existing impervious surfaces, shall not exceed 40% of the Buffer Zone between 50 and 100 feet.
9. No work is allowed, and no additional NOI or RDA shall be filed, for any work within the 0-to-50-foot Buffer Zone during the three-year term of an Order associated with this application.
10. Prior to any work being undertaken pursuant to this Order, the wetland resource boundary shall be flagged; all boundary delineation flagging should be maintained for the term of the Order.
11. If stormwater management structures are proposed in the Buffer Zone, the stormwater management structures shall be maintained as required in the Stormwater Plan. Such maintenance constitutes an ongoing condition and is not subject to further permitting requirements.
12. If this ORAD involves work as part of a Simplified Review, the ORAD shall be recorded at the Registry of Deeds prior to the commencement of work per the requirements of Section F.
13. Prior to proceeding with any work under Simplified Review, applicants are required to provide written notice to the Commission one week prior to commencing any work.
14. If work authorized under Simplified Review is commenced, no work is allowed, and no additional NOI or RDA may be filed, for any work within the 0-to-50-foot buffer zone during the term of an ORAD associated with this application. If work authorized under Simplified Review is **not** commenced, then future NOIs or RDAs may be filed for work within the 0-to-50-foot portion of the buffer zone.

--End of Conditions--



Massachusetts Department of Environmental Protection
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WPA Form 4B – Order of Resource Area Delineation
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

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C. Simplified Buffer Zone Review (cont.)

Stormwater Applicability

1. ☐ The project is not subject to the Stormwater Policy.
2. ☐ The project is subject to the Stormwater Policy and the Stormwater Plan included for the project complies with all stormwater standards.

Ineligibility Determinations

Site Conditions: The applicant is not eligible for Simplified Buffer Zone review and must file a Request for Determination of Applicability or Notice of Intent prior to any work because:

3. ☐ Work is within the Buffer Zone of a Coastal Resource Area as defined at 310 CMR 10.25-10.35.
4. ☐ The Buffer Zone contains existing slopes greater than an average of 15%.
5. ☐ Buffer Zone contains estimated rare wildlife habitat.[1]
6. ☐ The site borders an Outstanding Resource Water.[2]

Stormwater

7. ☐ The project is subject to the Stormwater Policy and the applicant has not submitted sufficient information to demonstrate compliance with the Stormwater Management Policy. Prior to any work, the applicant must submit plans showing compliance with the standards in the Stormwater Policy, the location of the work, the amount of impervious surface, and the location of erosion controls, to the Commission for its concurrence. (See instructions to ANRAD Form 4A.) The following necessary stormwater information was not submitted by the applicant:

   a. ______________________________

8. ☐ The project is subject to the Stormwater Policy but the project does not comply with one or more of the stormwater standards (specify which standard(s) not met).

   a. Standard # ____ : ______________________________

   b. Standard # ____ : ______________________________

9. ☐ Impervious surface exceeds 40% of the area of the Buffer Zone between 50 and 100 feet from the resource area.
10. ☐ The applicant did not submit plans depicting adequate erosion and sedimentation controls located at the limit of work or at least 50 feet from any resource areas, whichever will be greater.
11. ☐ Work is proposed within 50 feet of a resource area.

Notice to Commission

Any applicant proposing to proceed under Simplified Buffer Zone Review, as specified in 310 CMR 10.02, must provide written notice to the Commission one week prior to any work.

---

[1] *Identified on the most recent Estimated Habitat Map of State-listed Rare Wetlands Wildlife of the Natural Heritage and Endangered Species Program.*

[2] *Certified Vernal Pools, public water supplies, or inland ACECs as identified in 314 CMR 4.00.*

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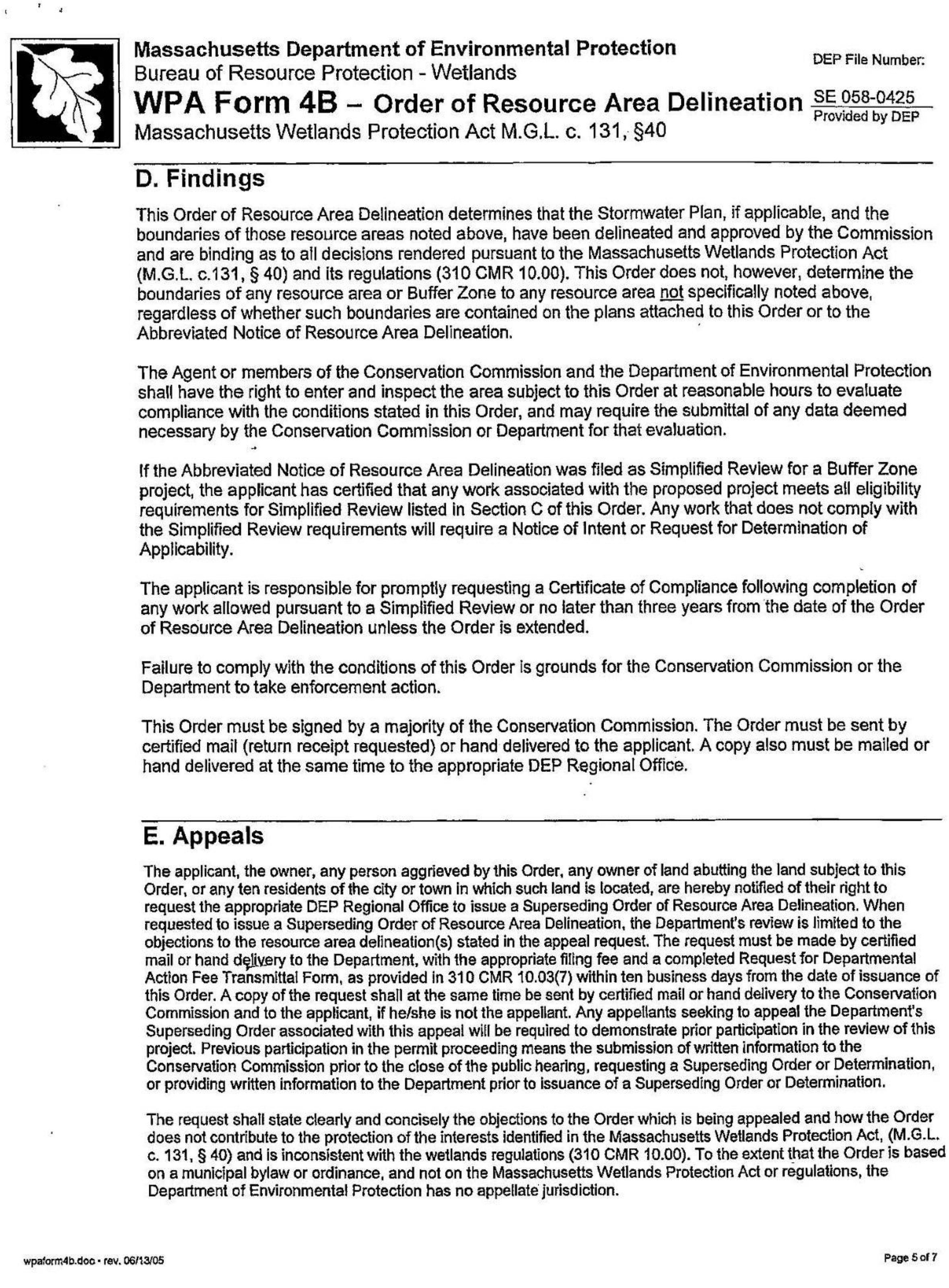

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 4B – Order of Resource Area Delineation

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

DEP File Number:
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D. Findings

This Order of Resource Area Delineation determines that the Stormwater Plan, if applicable, and the boundaries of those resource areas noted above, have been delineated and approved by the Commission and are binding as to all decisions rendered pursuant to the Massachusetts Wetlands Protection Act (M.G.L. c.131, § 40) and its regulations (310 CMR 10.00). This Order does not, however, determine the boundaries of any resource area or Buffer Zone to any resource area not specifically noted above, regardless of whether such boundaries are contained on the plans attached to this Order or to the Abbreviated Notice of Resource Area Delineation.

The Agent or members of the Conservation Commission and the Department of Environmental Protection shall have the right to enter and inspect the area subject to this Order at reasonable hours to evaluate compliance with the conditions stated in this Order, and may require the submittal of any data deemed necessary by the Conservation Commission or Department for that evaluation.

If the Abbreviated Notice of Resource Area Delineation was filed as Simplified Review for a Buffer Zone project, the applicant has certified that any work associated with the proposed project meets all eligibility requirements for Simplified Review listed in Section C of this Order. Any work that does not comply with the Simplified Review requirements will require a Notice of Intent or Request for Determination of Applicability.

The applicant is responsible for promptly requesting a Certificate of Compliance following completion of any work allowed pursuant to a Simplified Review or no later than three years from the date of the Order of Resource Area Delineation unless the Order is extended.

Failure to comply with the conditions of this Order is grounds for the Conservation Commission or the Department to take enforcement action.

This Order must be signed by a majority of the Conservation Commission. The Order must be sent by certified mail (return receipt requested) or hand delivered to the applicant. A copy also must be mailed or hand delivered at the same time to the appropriate DEP Regional Office.

E. Appeals

The applicant, the owner, any person aggrieved by this Order, any owner of land abutting the land subject to this Order, or any ten residents of the city or town in which such land is located, are hereby notified of their right to request the appropriate DEP Regional Office to issue a Superseding Order of Resource Area Delineation. When requested to issue a Superseding Order of Resource Area Delineation, the Department's review is limited to the objections to the resource area delineation(s) stated in the appeal request. The request must be made by certified mail or hand delivery to the Department, with the appropriate filing fee and a completed Request for Departmental Action Fee Transmittal Form, as provided in 310 CMR 10.03(7) within ten business days from the date of issuance of this Order. A copy of the request shall at the same time be sent by certified mail or hand delivery to the Conservation Commission and to the applicant, if he/she is not the appellant. Any appellants seeking to appeal the Department's Superseding Order associated with this appeal will be required to demonstrate prior participation in the review of this project. Previous participation in the permit proceeding means the submission of written information to the Conservation Commission prior to the close of the public hearing, requesting a Superseding Order or Determination, or providing written information to the Department prior to issuance of a Superseding Order or Determination.

The request shall state clearly and concisely the objections to the Order which is being appealed and how the Order does not contribute to the protection of the interests identified in the Massachusetts Wetlands Protection Act, (M.G.L. c. 131, § 40) and is inconsistent with the wetlands regulations (310 CMR 10.00). To the extent that the Order is based on a municipal bylaw or ordinance, and not on the Massachusetts Wetlands Protection Act or regulations, the Department of Environmental Protection has no appellate jurisdiction.

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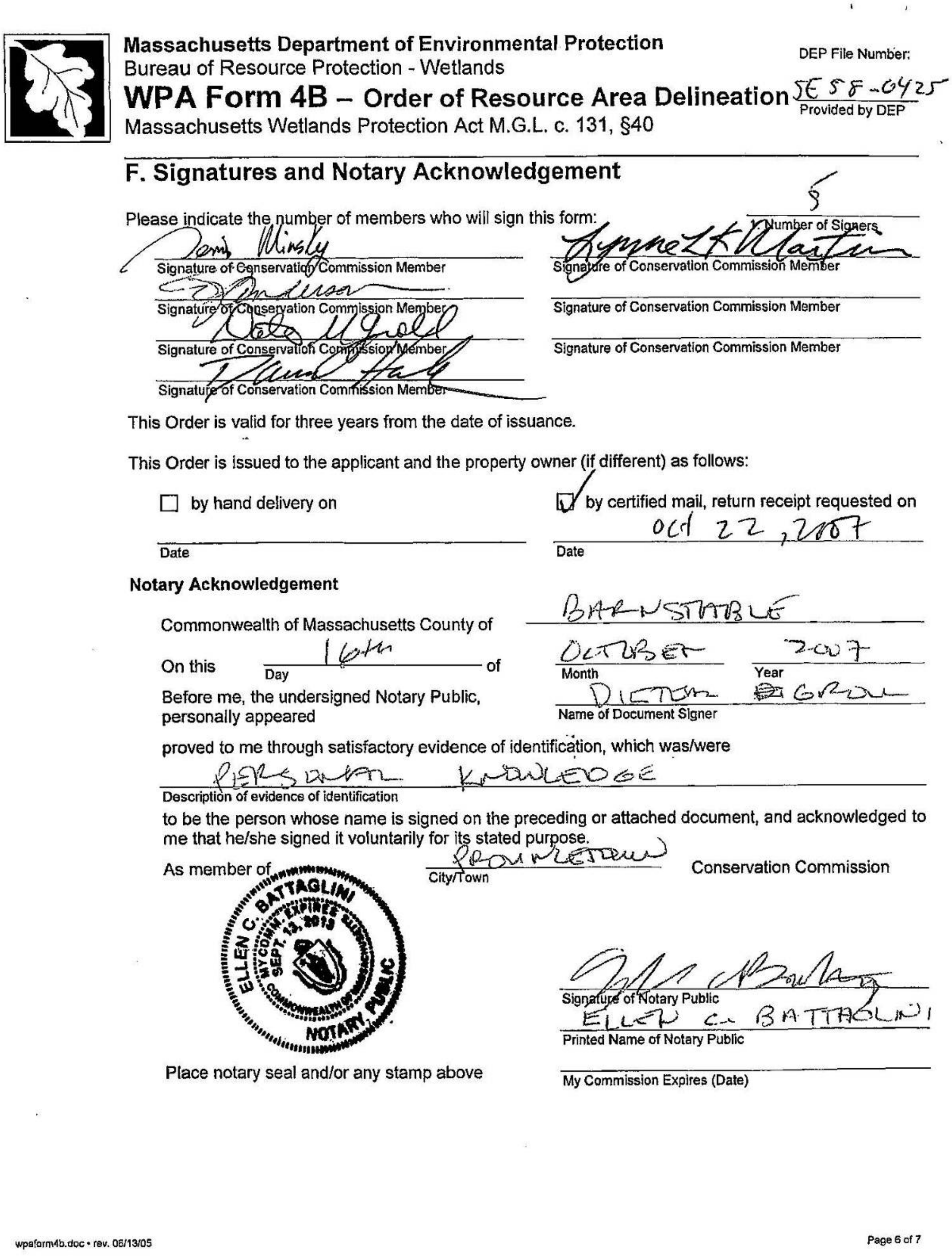

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
WPA Form 4B – Order of Resource Area Delineation
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

DEP File Number:
SE 58-0425
Provided by DEP

F. Signatures and Notary Acknowledgement

Please indicate the number of members who will sign this form: 5
1. Number of Signers

Dennis Minsky
Signature of Conservation Commission Member

Lynne L K Martin
Signature of Conservation Commission Member

Anderson
Signature of Conservation Commission Member

Signature of Conservation Commission Member

Signature of Conservation Commission Member

Signature of Conservation Commission Member

Signature of Conservation Commission Member

This Order is valid for three years from the date of issuance.

This Order is issued to the applicant and the property owner (if different) as follows:

☐ by hand delivery on
Date

☑ by certified mail, return receipt requested on
OCT 22, 2007
Date

Notary Acknowledgement

Commonwealth of Massachusetts County of BARNSTABLE

On this 16th (Day) of OCTOBER (Month) 2007 (Year)

Before me, the undersigned Notary Public, personally appeared DICTON GROW
Name of Document Signer

proved to me through satisfactory evidence of identification, which was/were
PERSONAL KNOWLEDGE
Description of evidence of identification

to be the person whose name is signed on the preceding or attached document, and acknowledged to me that he/she signed it voluntarily for its stated purpose.

As member of PROVINCETOWN (City/Town) Conservation Commission

ELLEN C. BATTAGLINI
MY COMM. EXPIRES SEPT. 13, 2013

Place notary seal and/or any stamp above

Signature of Notary Public

ELLEN C. BATTAGLINI
Printed Name of Notary Public

My Commission Expires (Date)

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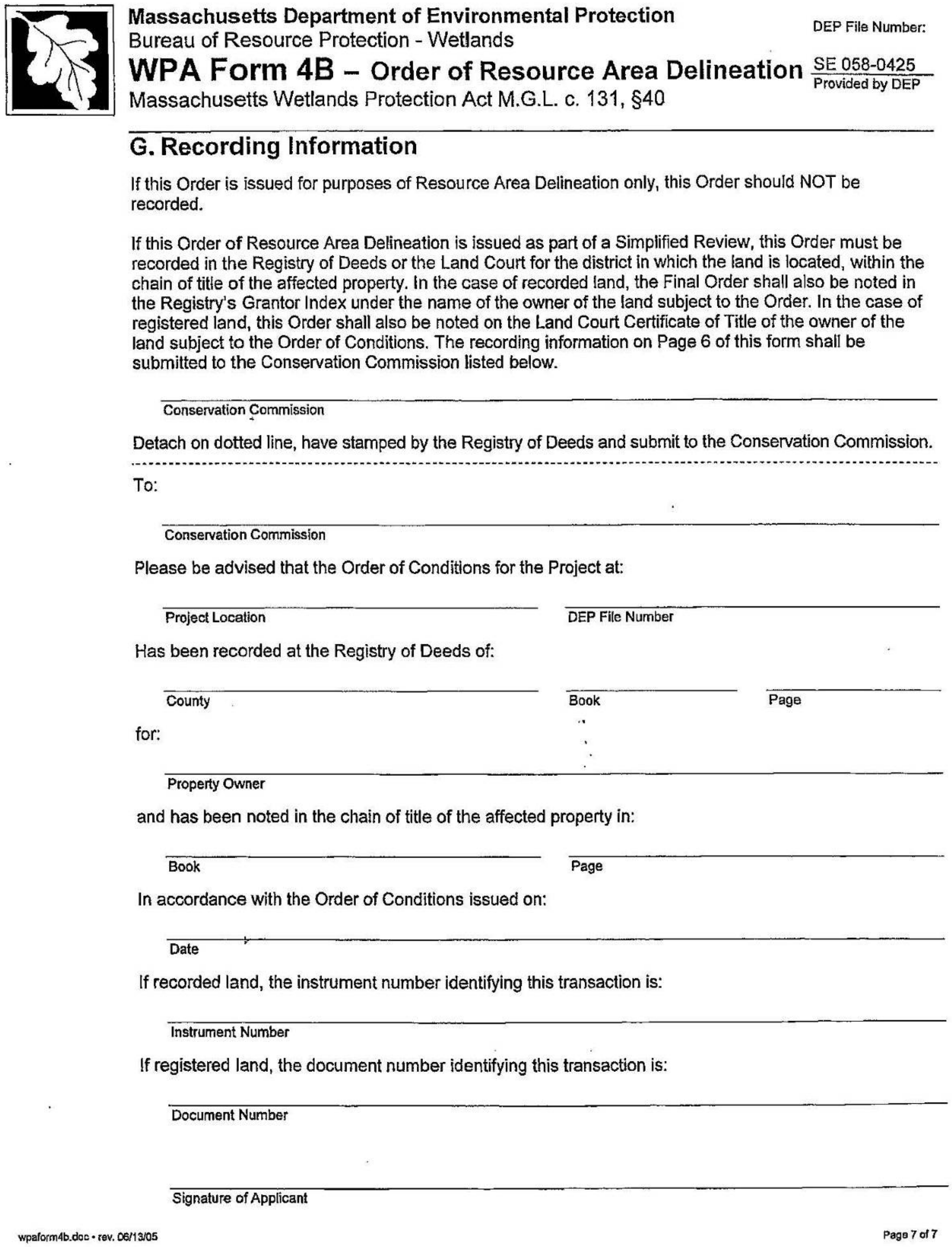

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
WPA Form 4B – Order of Resource Area Delineation
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

DEP File Number:
SE 058-0425
Provided by DEP

G. Recording Information

If this Order is issued for purposes of Resource Area Delineation only, this Order should NOT be recorded.

If this Order of Resource Area Delineation is issued as part of a Simplified Review, this Order must be recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land subject to the Order. In the case of registered land, this Order shall also be noted on the Land Court Certificate of Title of the owner of the land subject to the Order of Conditions. The recording information on Page 6 of this form shall be submitted to the Conservation Commission listed below.

Conservation Commission

Detach on dotted line, have stamped by the Registry of Deeds and submit to the Conservation Commission.

To:

Conservation Commission

Please be advised that the Order of Conditions for the Project at:

Project Location | DEP File Number

Has been recorded at the Registry of Deeds of:

County | Book | Page

for:

Property Owner

and has been noted in the chain of title of the affected property in:

Book | Page

In accordance with the Order of Conditions issued on:

Date

If recorded land, the instrument number identifying this transaction is:

Instrument Number

If registered land, the document number identifying this transaction is:

Document Number

Signature of Applicant

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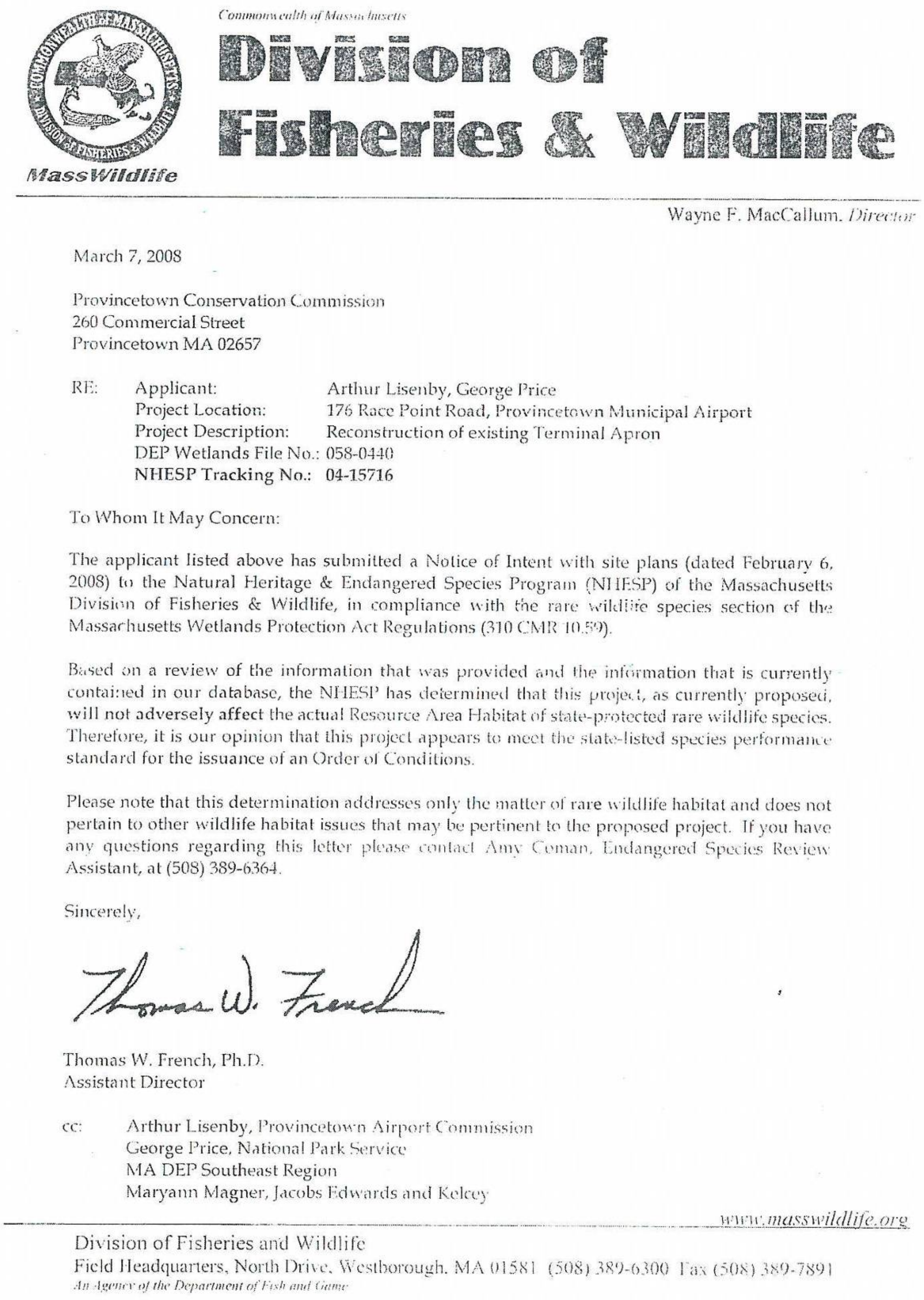


MassWildlife

Commonwealth of Massachusetts

Division of Fisheries & Wildlife

Wayne F. MacCallum, *Director*

March 7, 2008

Provincetown Conservation Commission
260 Commercial Street
Provincetown MA 02657

RE:	Applicant:	Arthur Lisenby, George Price
	Project Location:	176 Race Point Road, Provincetown Municipal Airport
	Project Description:	Reconstruction of existing Terminal Apron
	DEP Wetlands File No.:	058-0440
	NHESP Tracking No.:	**04-15716**

To Whom It May Concern:

The applicant listed above has submitted a Notice of Intent with site plans (dated February 6, 2008) to the Natural Heritage & Endangered Species Program (NHESP) of the Massachusetts Division of Fisheries & Wildlife, in compliance with the rare wildlife species section of the Massachusetts Wetlands Protection Act Regulations (310 CMR 10.59).

Based on a review of the information that was provided and the information that is currently contained in our database, the NHESP has determined that this project, as currently proposed, **will not adversely affect** the actual Resource Area Habitat of state-protected rare wildlife species. Therefore, it is our opinion that this project appears to meet the state-listed species performance standard for the issuance of an Order of Conditions.

Please note that this determination addresses only the matter of rare wildlife habitat and does not pertain to other wildlife habitat issues that may be pertinent to the proposed project. If you have any questions regarding this letter please contact Amy Coman, Endangered Species Review Assistant, at (508) 389-6364.

Sincerely,

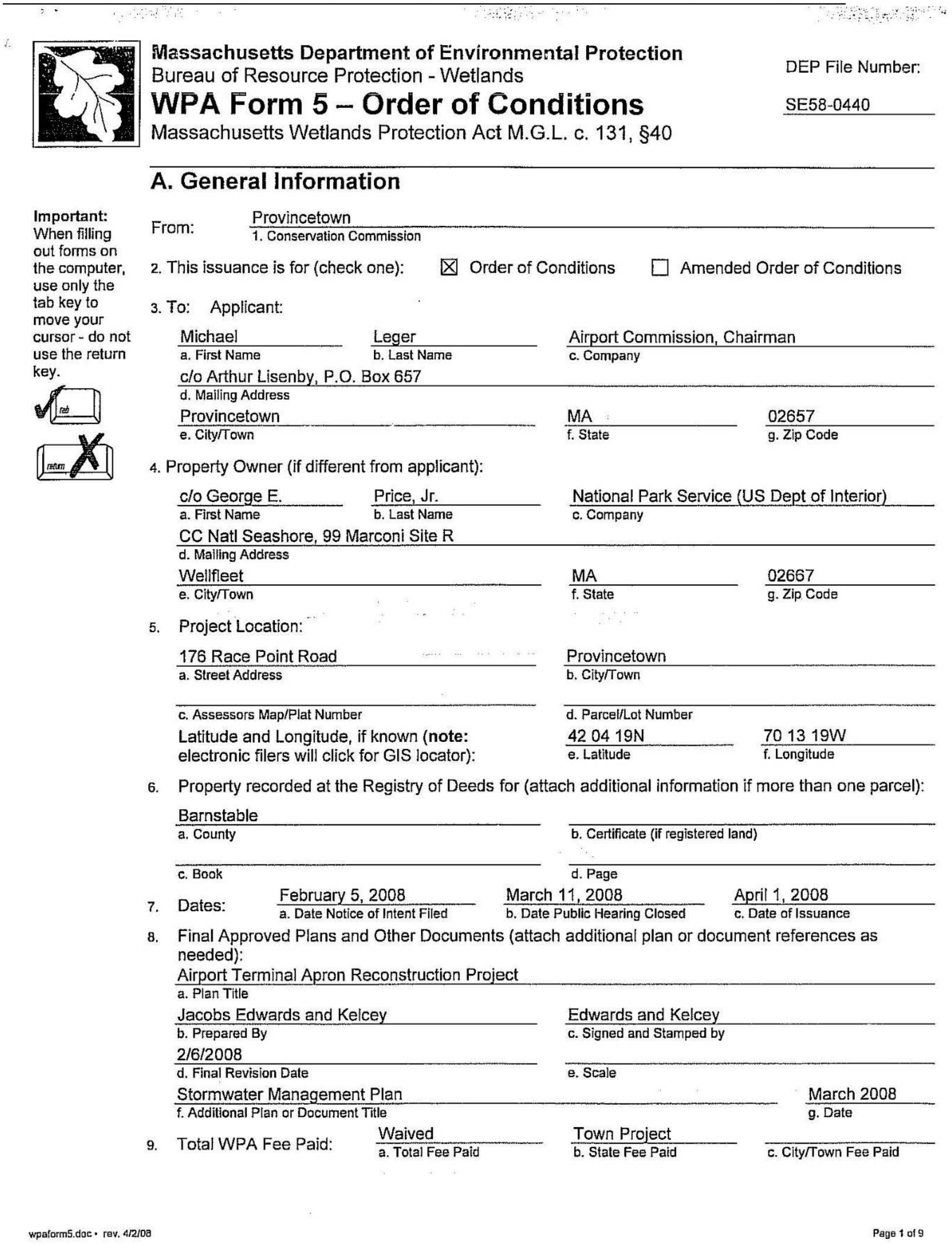
Thomas W. French

Thomas W. French, Ph.D.
Assistant Director

cc: Arthur Lisenby, Provincetown Airport Commission
George Price, National Park Service
MA DEP Southeast Region
Maryann Magner, Jacobs Edwards and Kelcey

www.masswildlife.org

Division of Fisheries and Wildlife
Field Headquarters, North Drive, Westborough, MA 01581 (508) 389-6300 Fax (508) 389-7891
An Agency of the Department of Fish and Game



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
WPA Form 5 – Order of Conditions
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

DEP File Number:
SE58-0440

A. General Information

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.

From: Provincetown
1. Conservation Commission

2. This issuance is for (check one): ☒ Order of Conditions ☐ Amended Order of Conditions

3. To: Applicant:

Michael	Leger	Airport Commission, Chairman
a. First Name	b. Last Name	c. Company

c/o Arthur Lisenby, P.O. Box 657
d. Mailing Address

Provincetown	MA	02657
e. City/Town	f. State	g. Zip Code

4. Property Owner (if different from applicant):

c/o George E.	Price, Jr.	National Park Service (US Dept of Interior)
a. First Name	b. Last Name	c. Company

CC Natl Seashore, 99 Marconi Site R
d. Mailing Address

Wellfleet	MA	02667
e. City/Town	f. State	g. Zip Code

5. Project Location:

176 Race Point Road	Provincetown
a. Street Address	b. City/Town
c. Assessors Map/Plat Number	d. Parcel/Lot Number

Latitude and Longitude, if known (**note:** electronic filers will click for GIS locator):

42 04 19N	70 13 19W
e. Latitude	f. Longitude

6. Property recorded at the Registry of Deeds for (attach additional information if more than one parcel):

Barnstable	
a. County	b. Certificate (if registered land)
c. Book	d. Page

7. Dates:

February 5, 2008	March 11, 2008	April 1, 2008
a. Date Notice of Intent Filed	b. Date Public Hearing Closed	c. Date of Issuance

8. Final Approved Plans and Other Documents (attach additional plan or document references as needed):

Airport Terminal Apron Reconstruction Project
a. Plan Title

Jacobs Edwards and Kelcey	Edwards and Kelcey
b. Prepared By	c. Signed and Stamped by
2/6/2008	
d. Final Revision Date	e. Scale
Stormwater Management Plan	March 2008
f. Additional Plan or Document Title	g. Date

9. Total WPA Fee Paid:

Waived	Town Project	
a. Total Fee Paid	b. State Fee Paid	c. City/Town Fee Paid

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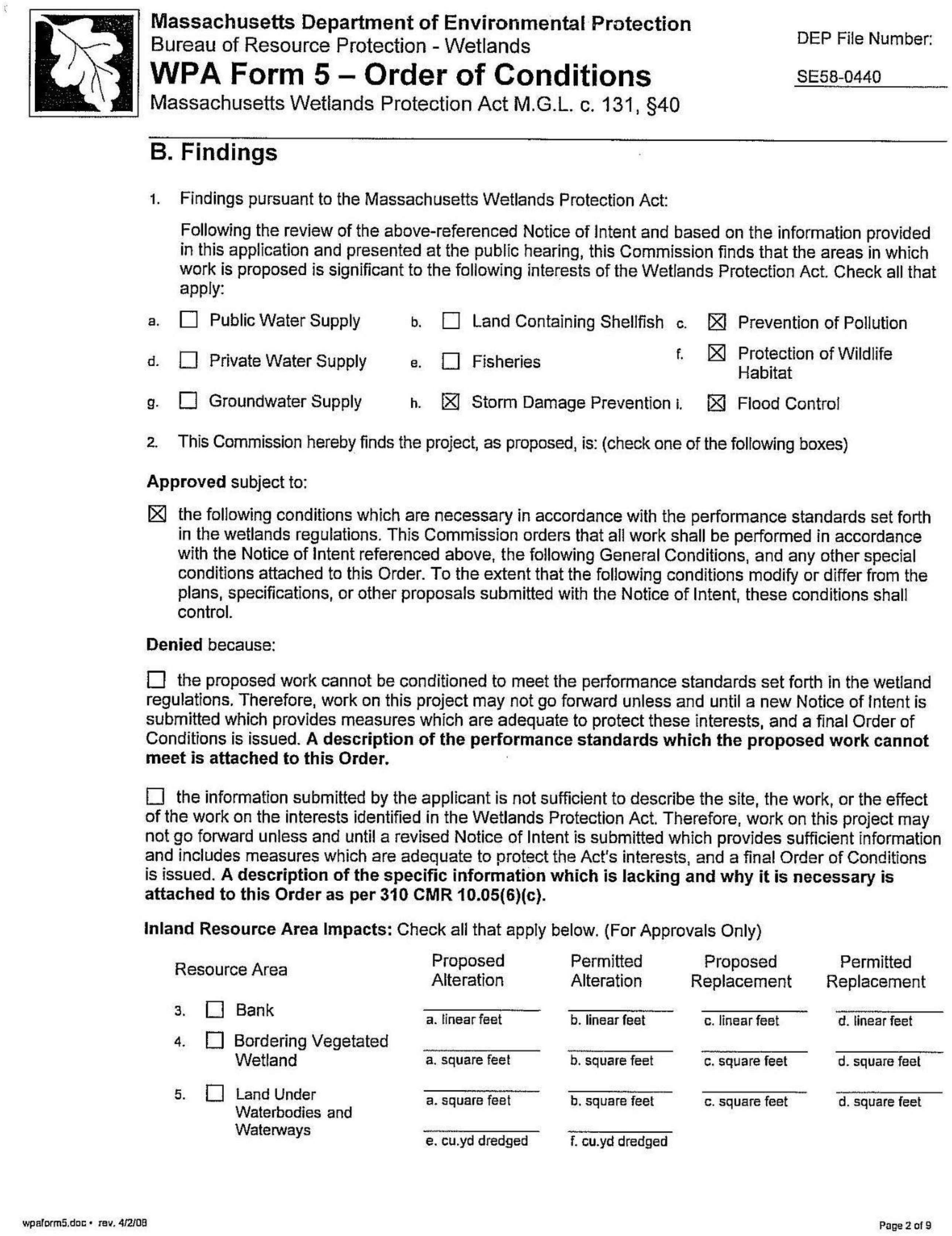


Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

DEP File Number:

SE58-0440

B. Findings

1. Findings pursuant to the Massachusetts Wetlands Protection Act:

Following the review of the above-referenced Notice of Intent and based on the information provided in this application and presented at the public hearing, this Commission finds that the areas in which work is proposed is significant to the following interests of the Wetlands Protection Act. Check all that apply:

a. ☐ Public Water Supply
b. ☐ Land Containing Shellfish
c. ☒ Prevention of Pollution
d. ☐ Private Water Supply
e. ☐ Fisheries
f. ☒ Protection of Wildlife Habitat
g. ☐ Groundwater Supply
h. ☒ Storm Damage Prevention
i. ☒ Flood Control

2. This Commission hereby finds the project, as proposed, is: (check one of the following boxes)

Approved subject to:

☒ the following conditions which are necessary in accordance with the performance standards set forth in the wetlands regulations. This Commission orders that all work shall be performed in accordance with the Notice of Intent referenced above, the following General Conditions, and any other special conditions attached to this Order. To the extent that the following conditions modify or differ from the plans, specifications, or other proposals submitted with the Notice of Intent, these conditions shall control.

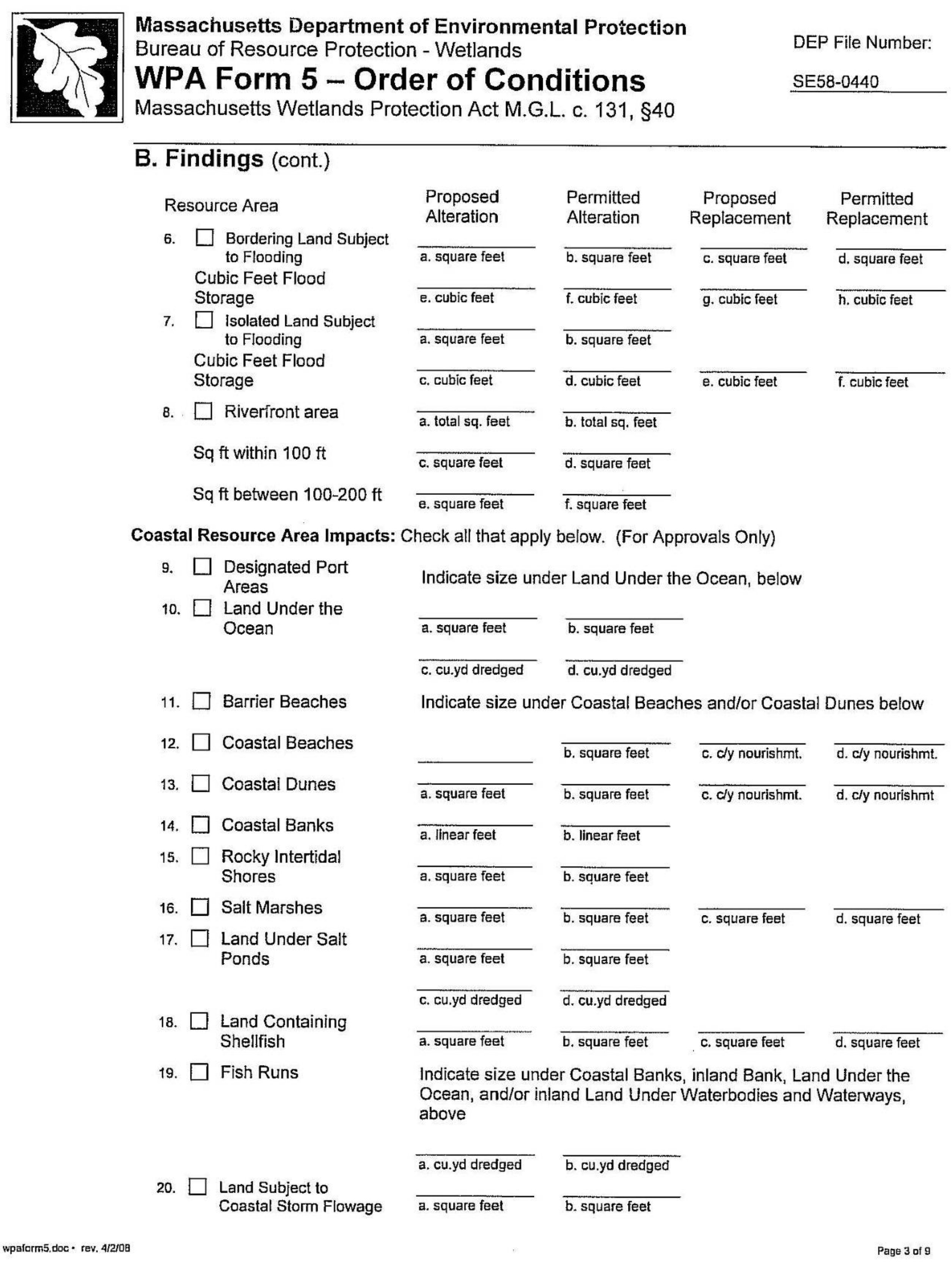
Denied because:

☐ the proposed work cannot be conditioned to meet the performance standards set forth in the wetland regulations. Therefore, work on this project may not go forward unless and until a new Notice of Intent is submitted which provides measures which are adequate to protect these interests, and a final Order of Conditions is issued. **A description of the performance standards which the proposed work cannot meet is attached to this Order.**

☐ the information submitted by the applicant is not sufficient to describe the site, the work, or the effect of the work on the interests identified in the Wetlands Protection Act. Therefore, work on this project may not go forward unless and until a revised Notice of Intent is submitted which provides sufficient information and includes measures which are adequate to protect the Act's interests, and a final Order of Conditions is issued. **A description of the specific information which is lacking and why it is necessary is attached to this Order as per 310 CMR 10.05(6)(c).**

Inland Resource Area Impacts: Check all that apply below. (For Approvals Only)

	Resource Area	Proposed Alteration	Permitted Alteration	Proposed Replacement	Permitted Replacement
3.	☐ Bank	a. linear feet	b. linear feet	c. linear feet	d. linear feet
4.	☐ Bordering Vegetated Wetland	a. square feet	b. square feet	c. square feet	d. square feet
5.	☐ Land Under Waterbodies and Waterways	a. square feet	b. square feet	c. square feet	d. square feet
		e. cu.yd dredged	f. cu.yd dredged		



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
WPA Form 5 – Order of Conditions
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

DEP File Number:
SE58-0440

B. Findings (cont.)

Resource Area	Proposed Alteration	Permitted Alteration	Proposed Replacement	Permitted Replacement
6. ☐ Bordering Land Subject to Flooding	a. square feet	b. square feet	c. square feet	d. square feet
Cubic Feet Flood Storage	e. cubic feet	f. cubic feet	g. cubic feet	h. cubic feet
7. ☐ Isolated Land Subject to Flooding	a. square feet	b. square feet		
Cubic Feet Flood Storage	c. cubic feet	d. cubic feet	e. cubic feet	f. cubic feet
8. ☐ Riverfront area	a. total sq. feet	b. total sq. feet		
Sq ft within 100 ft	c. square feet	d. square feet		
Sq ft between 100-200 ft	e. square feet	f. square feet		

Coastal Resource Area Impacts: Check all that apply below. (For Approvals Only)

9. ☐ Designated Port Areas	Indicate size under Land Under the Ocean, below			
10. ☐ Land Under the Ocean	a. square feet	b. square feet		
	c. cu.yd dredged	d. cu.yd dredged		
11. ☐ Barrier Beaches	Indicate size under Coastal Beaches and/or Coastal Dunes below			
12. ☐ Coastal Beaches		b. square feet	c. c/y nourishmt.	d. c/y nourishmt.
13. ☐ Coastal Dunes	a. square feet	b. square feet	c. c/y nourishmt.	d. c/y nourishmt
14. ☐ Coastal Banks	a. linear feet	b. linear feet		
15. ☐ Rocky Intertidal Shores	a. square feet	b. square feet		
16. ☐ Salt Marshes	a. square feet	b. square feet	c. square feet	d. square feet
17. ☐ Land Under Salt Ponds	a. square feet	b. square feet		
	c. cu.yd dredged	d. cu.yd dredged		
18. ☐ Land Containing Shellfish	a. square feet	b. square feet	c. square feet	d. square feet
19. ☐ Fish Runs	Indicate size under Coastal Banks, inland Bank, Land Under the Ocean, and/or inland Land Under Waterbodies and Waterways, above			
	a. cu.yd dredged	b. cu.yd dredged		
20. ☐ Land Subject to Coastal Storm Flowage	a. square feet	b. square feet		

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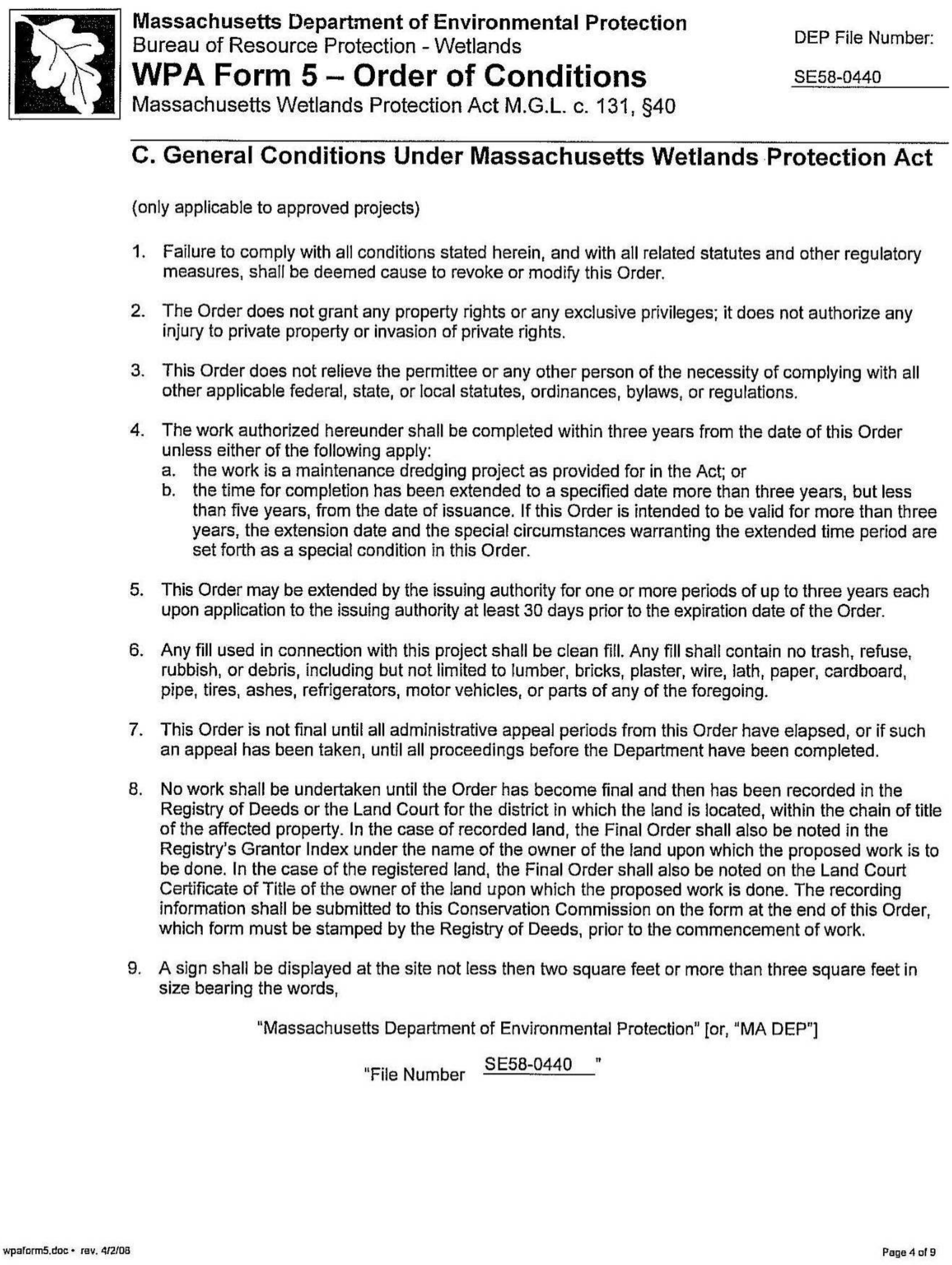


Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

DEP File Number:

SE58-0440

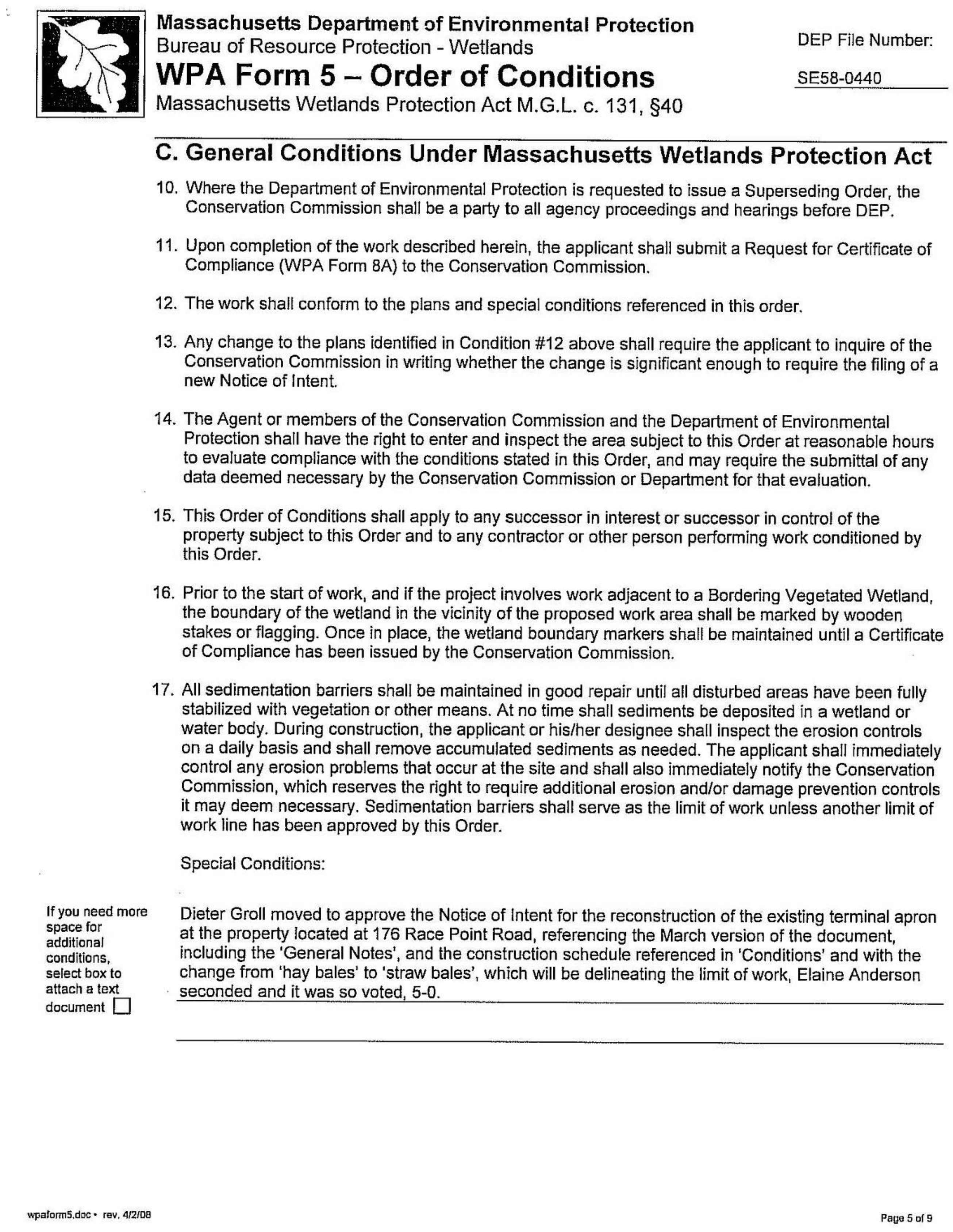
C. General Conditions Under Massachusetts Wetlands Protection Act

(only applicable to approved projects)

1. Failure to comply with all conditions stated herein, and with all related statutes and other regulatory measures, shall be deemed cause to revoke or modify this Order.
2. The Order does not grant any property rights or any exclusive privileges; it does not authorize any injury to private property or invasion of private rights.
3. This Order does not relieve the permittee or any other person of the necessity of complying with all other applicable federal, state, or local statutes, ordinances, bylaws, or regulations.
4. The work authorized hereunder shall be completed within three years from the date of this Order unless either of the following apply:
   a. the work is a maintenance dredging project as provided for in the Act; or
   b. the time for completion has been extended to a specified date more than three years, but less than five years, from the date of issuance. If this Order is intended to be valid for more than three years, the extension date and the special circumstances warranting the extended time period are set forth as a special condition in this Order.
5. This Order may be extended by the issuing authority for one or more periods of up to three years each upon application to the issuing authority at least 30 days prior to the expiration date of the Order.
6. Any fill used in connection with this project shall be clean fill. Any fill shall contain no trash, refuse, rubbish, or debris, including but not limited to lumber, bricks, plaster, wire, lath, paper, cardboard, pipe, tires, ashes, refrigerators, motor vehicles, or parts of any of the foregoing.
7. This Order is not final until all administrative appeal periods from this Order have elapsed, or if such an appeal has been taken, until all proceedings before the Department have been completed.
8. No work shall be undertaken until the Order has become final and then has been recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land upon which the proposed work is to be done. In the case of the registered land, the Final Order shall also be noted on the Land Court Certificate of Title of the owner of the land upon which the proposed work is done. The recording information shall be submitted to this Conservation Commission on the form at the end of this Order, which form must be stamped by the Registry of Deeds, prior to the commencement of work.
9. A sign shall be displayed at the site not less then two square feet or more than three square feet in size bearing the words,

"Massachusetts Department of Environmental Protection" [or, "MA DEP"]

"File Number SE58-0440 "



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

DEP File Number:
SE58-0440

C. General Conditions Under Massachusetts Wetlands Protection Act

10. Where the Department of Environmental Protection is requested to issue a Superseding Order, the Conservation Commission shall be a party to all agency proceedings and hearings before DEP.

11. Upon completion of the work described herein, the applicant shall submit a Request for Certificate of Compliance (WPA Form 8A) to the Conservation Commission.

12. The work shall conform to the plans and special conditions referenced in this order.

13. Any change to the plans identified in Condition #12 above shall require the applicant to inquire of the Conservation Commission in writing whether the change is significant enough to require the filing of a new Notice of Intent.

14. The Agent or members of the Conservation Commission and the Department of Environmental Protection shall have the right to enter and inspect the area subject to this Order at reasonable hours to evaluate compliance with the conditions stated in this Order, and may require the submittal of any data deemed necessary by the Conservation Commission or Department for that evaluation.

15. This Order of Conditions shall apply to any successor in interest or successor in control of the property subject to this Order and to any contractor or other person performing work conditioned by this Order.

16. Prior to the start of work, and if the project involves work adjacent to a Bordering Vegetated Wetland, the boundary of the wetland in the vicinity of the proposed work area shall be marked by wooden stakes or flagging. Once in place, the wetland boundary markers shall be maintained until a Certificate of Compliance has been issued by the Conservation Commission.

17. All sedimentation barriers shall be maintained in good repair until all disturbed areas have been fully stabilized with vegetation or other means. At no time shall sediments be deposited in a wetland or water body. During construction, the applicant or his/her designee shall inspect the erosion controls on a daily basis and shall remove accumulated sediments as needed. The applicant shall immediately control any erosion problems that occur at the site and shall also immediately notify the Conservation Commission, which reserves the right to require additional erosion and/or damage prevention controls it may deem necessary. Sedimentation barriers shall serve as the limit of work unless another limit of work line has been approved by this Order.

Special Conditions:

If you need more space for additional conditions, select box to attach a text document ☐

Dieter Groll moved to approve the Notice of Intent for the reconstruction of the existing terminal apron at the property located at 176 Race Point Road, referencing the March version of the document, including the 'General Notes', and the construction schedule referenced in 'Conditions' and with the change from 'hay bales' to 'straw bales', which will be delineating the limit of work, Elaine Anderson seconded and it was so voted, 5-0.

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Page 5 of 9

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

DEP File Number:
SE58-0440

D. Findings Under Municipal Wetlands Bylaw or Ordinance

1. Furthermore, the Provincetown (Conservation Commission) hereby finds (check one that applies):

2. ☐ that the proposed work cannot be conditioned to meet the standards set forth in a municipal ordinance or bylaw specifically:

a. Municipal Ordinance or Bylaw ______ b. Citation ______

Therefore, work on this project may not go forward unless and until a revised Notice of Intent is submitted which provides measures which are adequate to meet these standards, and a final Order of Conditions is issued.

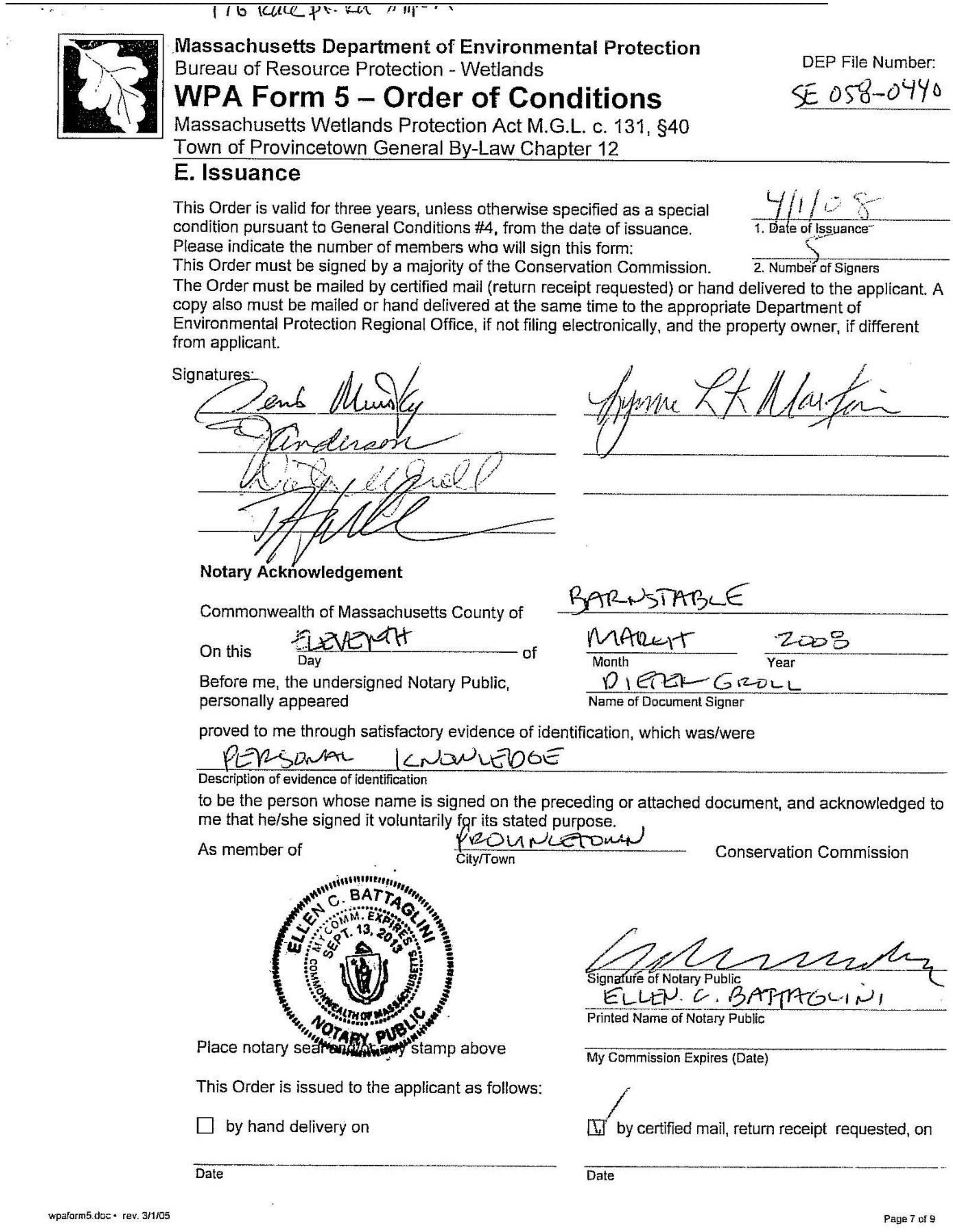
3. ☐ that the following additional conditions are necessary to comply with a municipal ordinance or bylaw:

a. Municipal Ordinance or Bylaw: Provincetown Wetlands Bylaw
b. Citation: Chapter 12

The Commission orders that all work shall be performed in accordance with the following conditions and with the Notice of Intent referenced above. To the extent that the following conditions modify or differ from the plans, specifications, or other proposals submitted with the Notice of Intent, the conditions shall control.

If you need more space for additional conditions, select box to attach a text document ☐

c. The special conditions relating to municipal ordinance or bylaw are as follows:



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Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
WPA Form 5 – Order of Conditions
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40
Town of Provincetown General By-Law Chapter 12

DEP File Number: SE 058-0440

E. Issuance

This Order is valid for three years, unless otherwise specified as a special condition pursuant to General Conditions #4, from the date of issuance.

1. Date of Issuance: 4/1/08

Please indicate the number of members who will sign this form:
This Order must be signed by a majority of the Conservation Commission.

2. Number of Signers: 5

The Order must be mailed by certified mail (return receipt requested) or hand delivered to the applicant. A copy also must be mailed or hand delivered at the same time to the appropriate Department of Environmental Protection Regional Office, if not filing electronically, and the property owner, if different from applicant.

Signatures:

Dennis Minsky
Anderson
Dieter Groll

Lynne L K Martin

Notary Acknowledgement

Commonwealth of Massachusetts County of BARNSTABLE

On this ELEVENTH (Day) of MARCH (Month) 2008 (Year)

Before me, the undersigned Notary Public, personally appeared DIETER GROLL (Name of Document Signer)

proved to me through satisfactory evidence of identification, which was/were

PERSONAL KNOWLEDGE
Description of evidence of identification

to be the person whose name is signed on the preceding or attached document, and acknowledged to me that he/she signed it voluntarily for its stated purpose.

As member of PROVINCETOWN (City/Town) Conservation Commission

ELLEN C. BATTAGLINI
MY COMM. EXPIRES SEPT. 13, 2013

Place notary seal and/or any stamp above

Signature of Notary Public

ELLEN. C. BATTAGLINI
Printed Name of Notary Public

My Commission Expires (Date)

This Order is issued to the applicant as follows:

☐ by hand delivery on

Date

☑ by certified mail, return receipt requested, on

Date

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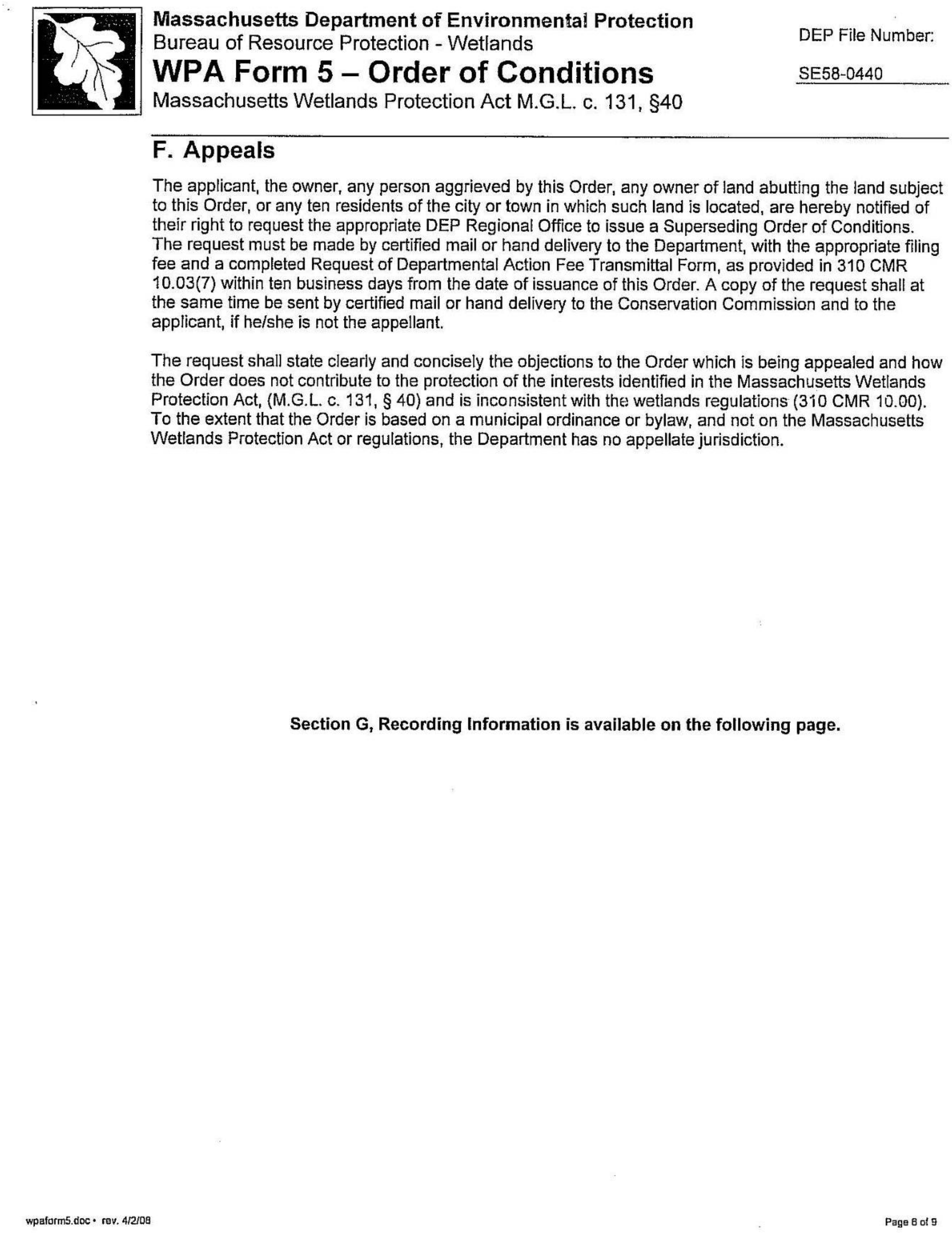


Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
WPA Form 5 – Order of Conditions
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

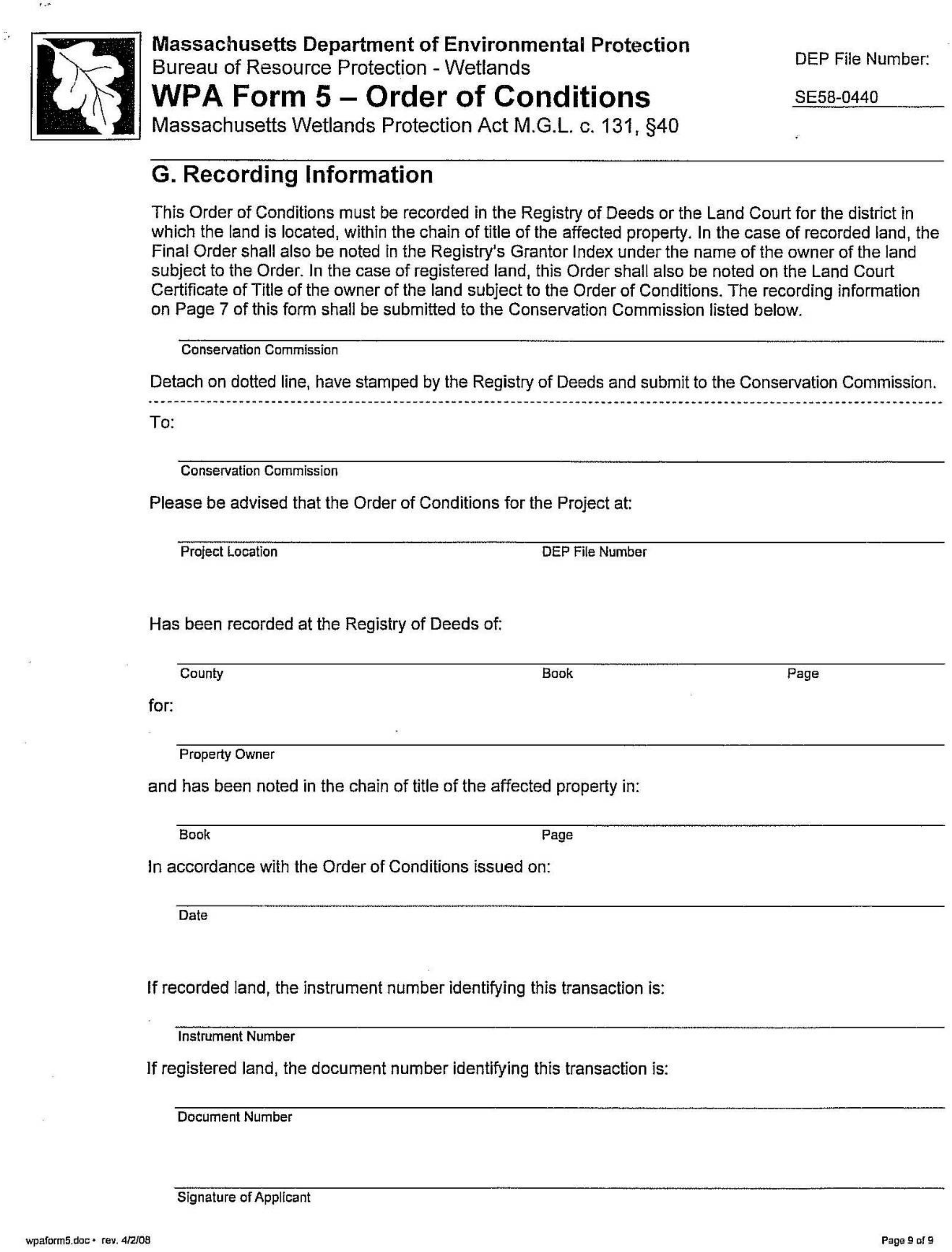
DEP File Number:
SE58-0440

F. Appeals

The applicant, the owner, any person aggrieved by this Order, any owner of land abutting the land subject to this Order, or any ten residents of the city or town in which such land is located, are hereby notified of their right to request the appropriate DEP Regional Office to issue a Superseding Order of Conditions. The request must be made by certified mail or hand delivery to the Department, with the appropriate filing fee and a completed Request of Departmental Action Fee Transmittal Form, as provided in 310 CMR 10.03(7) within ten business days from the date of issuance of this Order. A copy of the request shall at the same time be sent by certified mail or hand delivery to the Conservation Commission and to the applicant, if he/she is not the appellant.

The request shall state clearly and concisely the objections to the Order which is being appealed and how the Order does not contribute to the protection of the interests identified in the Massachusetts Wetlands Protection Act, (M.G.L. c. 131, § 40) and is inconsistent with the wetlands regulations (310 CMR 10.00). To the extent that the Order is based on a municipal ordinance or bylaw, and not on the Massachusetts Wetlands Protection Act or regulations, the Department has no appellate jurisdiction.

Section G, Recording Information is available on the following page.



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

DEP File Number:

SE58-0440

G. Recording Information

This Order of Conditions must be recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land subject to the Order. In the case of registered land, this Order shall also be noted on the Land Court Certificate of Title of the owner of the land subject to the Order of Conditions. The recording information on Page 7 of this form shall be submitted to the Conservation Commission listed below.

Conservation Commission

Detach on dotted line, have stamped by the Registry of Deeds and submit to the Conservation Commission.

To:

Conservation Commission

Please be advised that the Order of Conditions for the Project at:

Project Location DEP File Number

Has been recorded at the Registry of Deeds of:

County Book Page

for:

Property Owner

and has been noted in the chain of title of the affected property in:

Book Page

In accordance with the Order of Conditions issued on:

Date

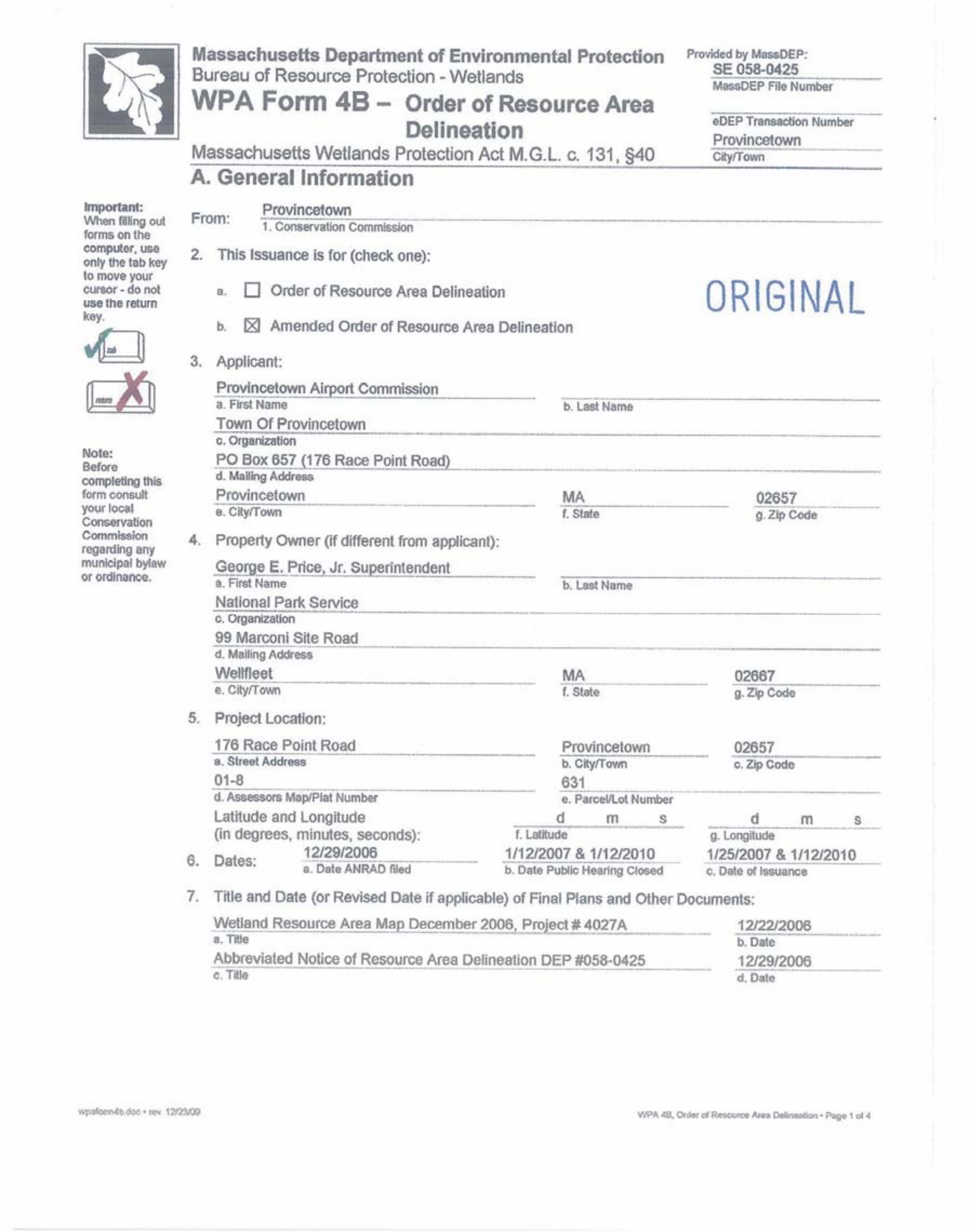
If recorded land, the instrument number identifying this transaction is:

Instrument Number

If registered land, the document number identifying this transaction is:

Document Number

Signature of Applicant



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
WPA Form 4B – Order of Resource Area Delineation
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
SE 058-0425
MassDEP File Number

eDEP Transaction Number
Provincetown
City/Town

A. General Information

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.

Note: Before completing this form consult your local Conservation Commission regarding any municipal bylaw or ordinance.

From: Provincetown
1. Conservation Commission

2. This Issuance is for (check one):

a. ☐ Order of Resource Area Delineation

b. ☒ Amended Order of Resource Area Delineation

ORIGINAL

3. Applicant:

a. First Name: Provincetown Airport Commission
b. Last Name:
c. Organization: Town Of Provincetown
d. Mailing Address: PO Box 657 (176 Race Point Road)
e. City/Town: Provincetown
f. State: MA
g. Zip Code: 02657

4. Property Owner (if different from applicant):

a. First Name: George E. Price, Jr. Superintendent
b. Last Name:
c. Organization: National Park Service
d. Mailing Address: 99 Marconi Site Road
e. City/Town: Wellfleet
f. State: MA
g. Zip Code: 02667

5. Project Location:

a. Street Address: 176 Race Point Road
b. City/Town: Provincetown
c. Zip Code: 02657
d. Assessors Map/Plat Number: 01-8
e. Parcel/Lot Number: 631
Latitude and Longitude (in degrees, minutes, seconds): f. Latitude: d m s g. Longitude: d m s

6. Dates:
a. Date ANRAD filed: 12/29/2006
b. Date Public Hearing Closed: 1/12/2007 & 1/12/2010
c. Date of Issuance: 1/25/2007 & 1/12/2010

7. Title and Date (or Revised Date if applicable) of Final Plans and Other Documents:

a. Title: Wetland Resource Area Map December 2006, Project # 4027A
b. Date: 12/22/2006
c. Title: Abbreviated Notice of Resource Area Delineation DEP #058-0425
d. Date: 12/29/2006

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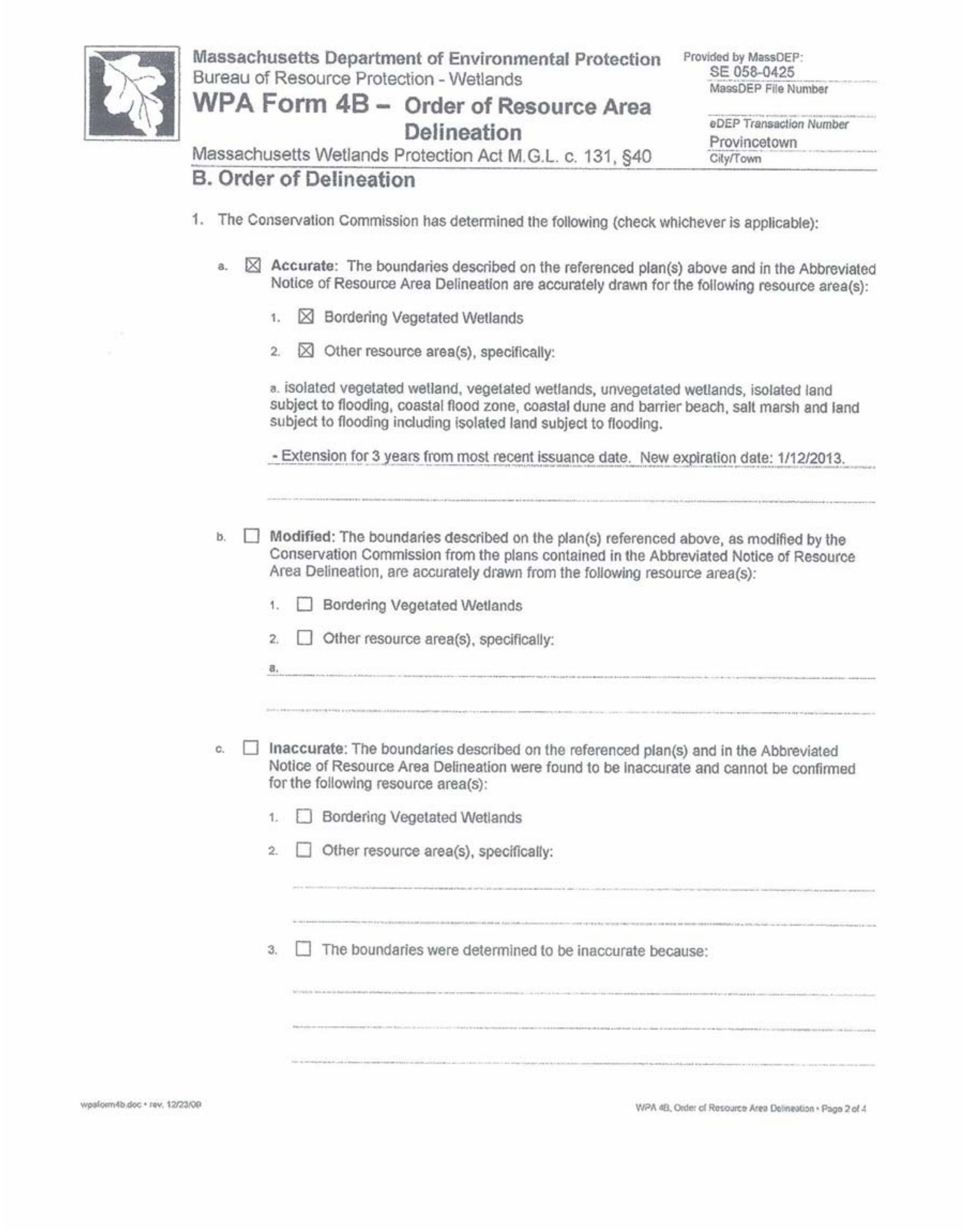
WPA 4B, Order of Resource Area Delineation • Page 1 of 4



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B. Order of Delineation

1. The Conservation Commission has determined the following (check whichever is applicable):

a. ☒ **Accurate**: The boundaries described on the referenced plan(s) above and in the Abbreviated Notice of Resource Area Delineation are accurately drawn for the following resource area(s):

1. ☒ Bordering Vegetated Wetlands

2. ☒ Other resource area(s), specifically:

a. isolated vegetated wetland, vegetated wetlands, unvegetated wetlands, isolated land subject to flooding, coastal flood zone, coastal dune and barrier beach, salt marsh and land subject to flooding including isolated land subject to flooding.

- Extension for 3 years from most recent issuance date. New expiration date: 1/12/2013.

b. ☐ **Modified:** The boundaries described on the plan(s) referenced above, as modified by the Conservation Commission from the plans contained in the Abbreviated Notice of Resource Area Delineation, are accurately drawn from the following resource area(s):

1. ☐ Bordering Vegetated Wetlands

2. ☐ Other resource area(s), specifically:

a.

c. ☐ **Inaccurate**: The boundaries described on the referenced plan(s) and in the Abbreviated Notice of Resource Area Delineation were found to be inaccurate and cannot be confirmed for the following resource area(s):

1. ☐ Bordering Vegetated Wetlands

2. ☐ Other resource area(s), specifically:

3. ☐ The boundaries were determined to be inaccurate because:

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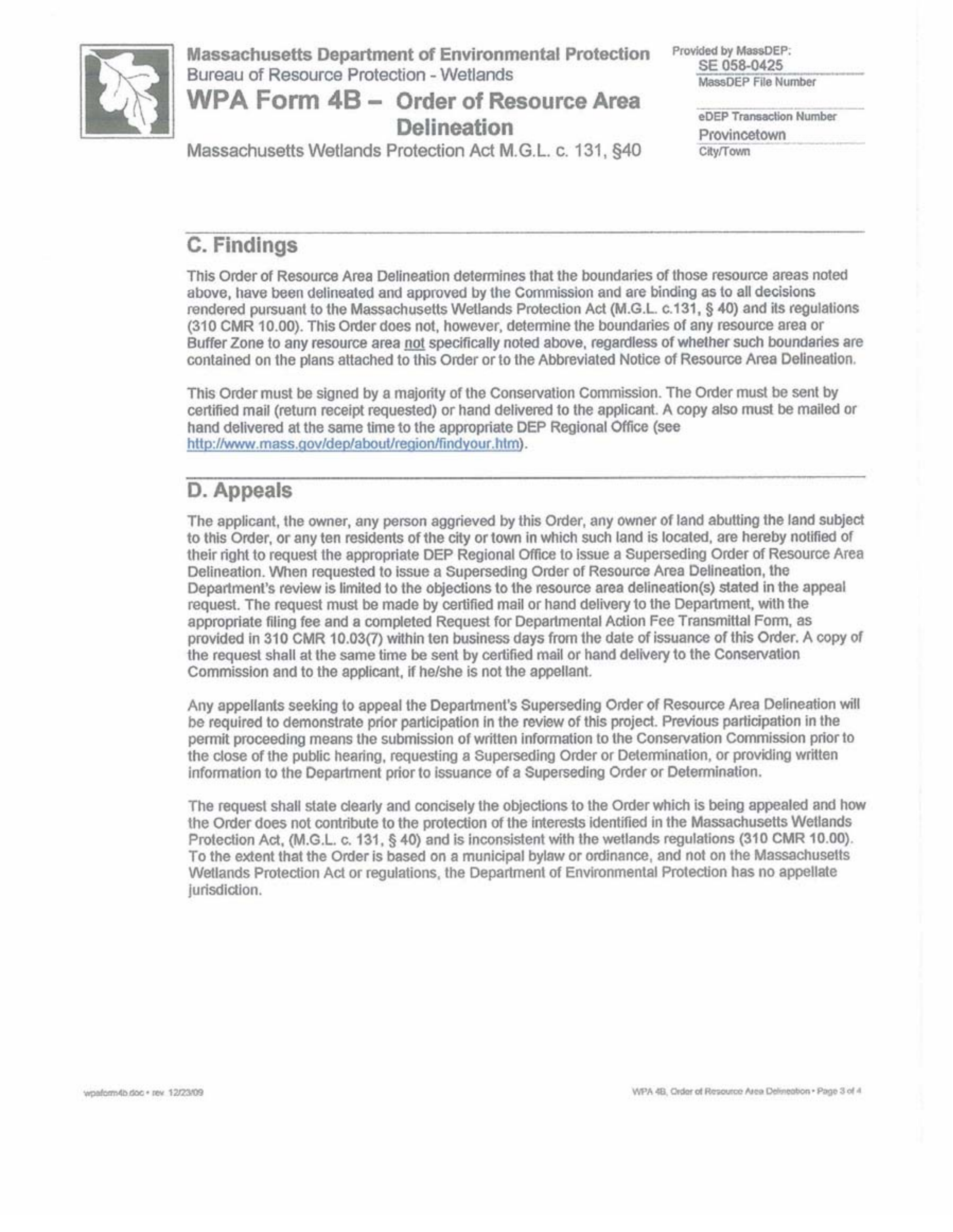
WPA 4B, Order of Resource Area Delineation • Page 2 of 4



Massachusetts Department of Environmental Protection
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C. Findings

This Order of Resource Area Delineation determines that the boundaries of those resource areas noted above, have been delineated and approved by the Commission and are binding as to all decisions rendered pursuant to the Massachusetts Wetlands Protection Act (M.G.L. c.131, § 40) and its regulations (310 CMR 10.00). This Order does not, however, determine the boundaries of any resource area or Buffer Zone to any resource area not specifically noted above, regardless of whether such boundaries are contained on the plans attached to this Order or to the Abbreviated Notice of Resource Area Delineation.

This Order must be signed by a majority of the Conservation Commission. The Order must be sent by certified mail (return receipt requested) or hand delivered to the applicant. A copy also must be mailed or hand delivered at the same time to the appropriate DEP Regional Office (see http://www.mass.gov/dep/about/region/findyour.htm).

D. Appeals

The applicant, the owner, any person aggrieved by this Order, any owner of land abutting the land subject to this Order, or any ten residents of the city or town in which such land is located, are hereby notified of their right to request the appropriate DEP Regional Office to issue a Superseding Order of Resource Area Delineation. When requested to issue a Superseding Order of Resource Area Delineation, the Department's review is limited to the objections to the resource area delineation(s) stated in the appeal request. The request must be made by certified mail or hand delivery to the Department, with the appropriate filing fee and a completed Request for Departmental Action Fee Transmittal Form, as provided in 310 CMR 10.03(7) within ten business days from the date of issuance of this Order. A copy of the request shall at the same time be sent by certified mail or hand delivery to the Conservation Commission and to the applicant, if he/she is not the appellant.

Any appellants seeking to appeal the Department's Superseding Order of Resource Area Delineation will be required to demonstrate prior participation in the review of this project. Previous participation in the permit proceeding means the submission of written information to the Conservation Commission prior to the close of the public hearing, requesting a Superseding Order or Determination, or providing written information to the Department prior to issuance of a Superseding Order or Determination.

The request shall state clearly and concisely the objections to the Order which is being appealed and how the Order does not contribute to the protection of the interests identified in the Massachusetts Wetlands Protection Act, (M.G.L. c. 131, § 40) and is inconsistent with the wetlands regulations (310 CMR 10.00). To the extent that the Order is based on a municipal bylaw or ordinance, and not on the Massachusetts Wetlands Protection Act or regulations, the Department of Environmental Protection has no appellate jurisdiction.

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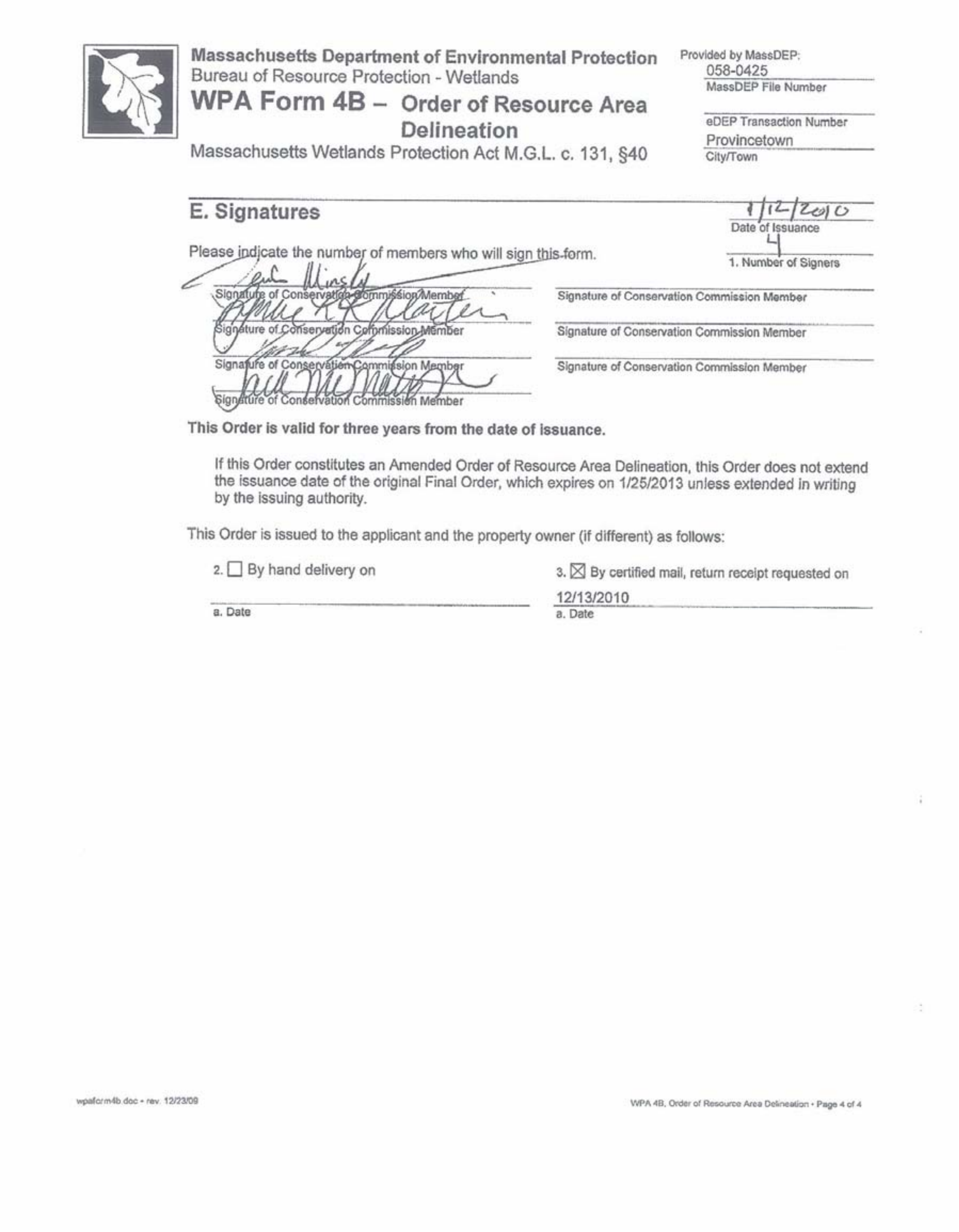

Massachusetts Department of Environmental Protection
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Provided by MassDEP:
058-0425
MassDEP File Number

eDEP Transaction Number

Provincetown
City/Town

E. Signatures

1/12/2010
Date of Issuance

Please indicate the number of members who will sign this form.

4
1. Number of Signers

Signature of Conservation Commission Member	Signature of Conservation Commission Member
Signature of Conservation Commission Member	Signature of Conservation Commission Member
Signature of Conservation Commission Member	Signature of Conservation Commission Member
Signature of Conservation Commission Member	

This Order is valid for three years from the date of issuance.

If this Order constitutes an Amended Order of Resource Area Delineation, this Order does not extend the issuance date of the original Final Order, which expires on 1/25/2013 unless extended in writing by the issuing authority.

This Order is issued to the applicant and the property owner (if different) as follows:

2. ☐ By hand delivery on	3. ☒ By certified mail, return receipt requested on
	12/13/2010
a. Date	a. Date

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10.4 Relationship to Other Planning Efforts

Several planning efforts relate to Cape Cod, the Cape Cod National Seashore (CCNS), and the Airport. Documents addressing transportation, protection of natural resources and other relevant issues are listed below:

- The Cape Cod Commission Regional Policy Plan,
- The National Seashore, Forging a Collaborative Future,
- The National Seashore, Province Lands Bike Trail Renovations
- The National Seashore, Electrical supply for Herring Cove Beach Facilities
- FHWA Reconstruction of Route 6 and Province Lands Road Intersection
- *The Shuttle*, and *Flex* bus service of the Cape Cod Regional Transit Authority (CCRTA), and
- The Provincetown Municipal Airport 2005 Master Plan

All of these plans recognize the need for maintaining the transportation infrastructure for the Cape. The CIP projects would not prevent implementation of management plans developed by other agencies for the National Seashore and Cape Cod. The CIP projects meet this planning goal.

SECTION 11.0 Distribution List

The FEIR/EA has been sent to the following agencies, organizations, elected officials, and other interested parties.

Federal

Army Corps of Engineers, New England Division
Environmental Protection Agency, Region 1
U.S. Fish and Wildlife Service, New England Field Office
National Park Service, Cape Cod National Seashore, Attention Superintendent George E. Price, Jr.
National Park Service, Boston Office
National Park Service, Cape Cod National Seashore Advisory Commission
Federal Aviation Administration, New England Region

State

Secretary Richard K. Sullivan Jr., EOEEA, Attention MEPA Office
Massachusetts DOT Aeronautics Division
Massachusetts Coastal Zone Management
Massachusetts DOT, Highway Division, MEPA Coordinator
Massachusetts Department of Environmental Protection, SE Regional Office, (DEPSERO) Attention NEPA Coordinator
Massachusetts Division of Marine Fisheries, Attention Paul J. Diodati
Massachusetts Division of Fisheries & Wildlife, Natural Heritage & Endangered Species Program, Attention Thomas W. French
Massachusetts Historical Commission
Mashpee Wampanoag Tribal Council
Wampanoag Tribe of Gay Head (Aquinnah)

Regional

Cape Cod Commission, Attention Paul Niedzwiecki
Cape Cod Regional Transit Authority

Town of Provincetown

Chairman, Board of Selectmen
Chairman, Conservation Commission
Chairman, Planning Board
Director, Public Library

Organizations and Other Interested Parties

Association to Preserve Cape Cod, Attention Maggie Geist and Don Keeran
Massachusetts Audubon Society, Attention E. Heidi Ricci
Daniel A. Wolf, President Cape Air/Nantucket Airlines
Friends of Cape Cod National Seashore

SECTION 12.0 List of Preparers

The FEIR/EA was prepared by Jacobs in association with the Horsley Witten Group, Inc. of Sandwich. Eastern Topographic prepared the aerial survey.

Key participants in the review of this document include the following:

National Park Service, Cape Cod National Seashore

Kathy Tevyaw
Shelley Hall
Lauren McKean
Carrie Phillips

Key participants in the preparation of this document include the following:

Federal Aviation Administration

Michelle Ricci, Environmental Protection Specialist

MassDOT Aeronautics Division

Katie R. Servis, Environmental Analyst
Denise Garcia, Manager of Aviation Planning

Provincetown Airport Commission

Heath Gatlin, Airport Commission Chairman
Arthur “Butch” Lisenby, Airport Manager

Jacobs

Michael Garrity, Project Manager
William Richardson, Senior Aviation Planner
Maryann Magner, Senior Environmental Scientist
Derek Amorelli, P.E. Project Engineer

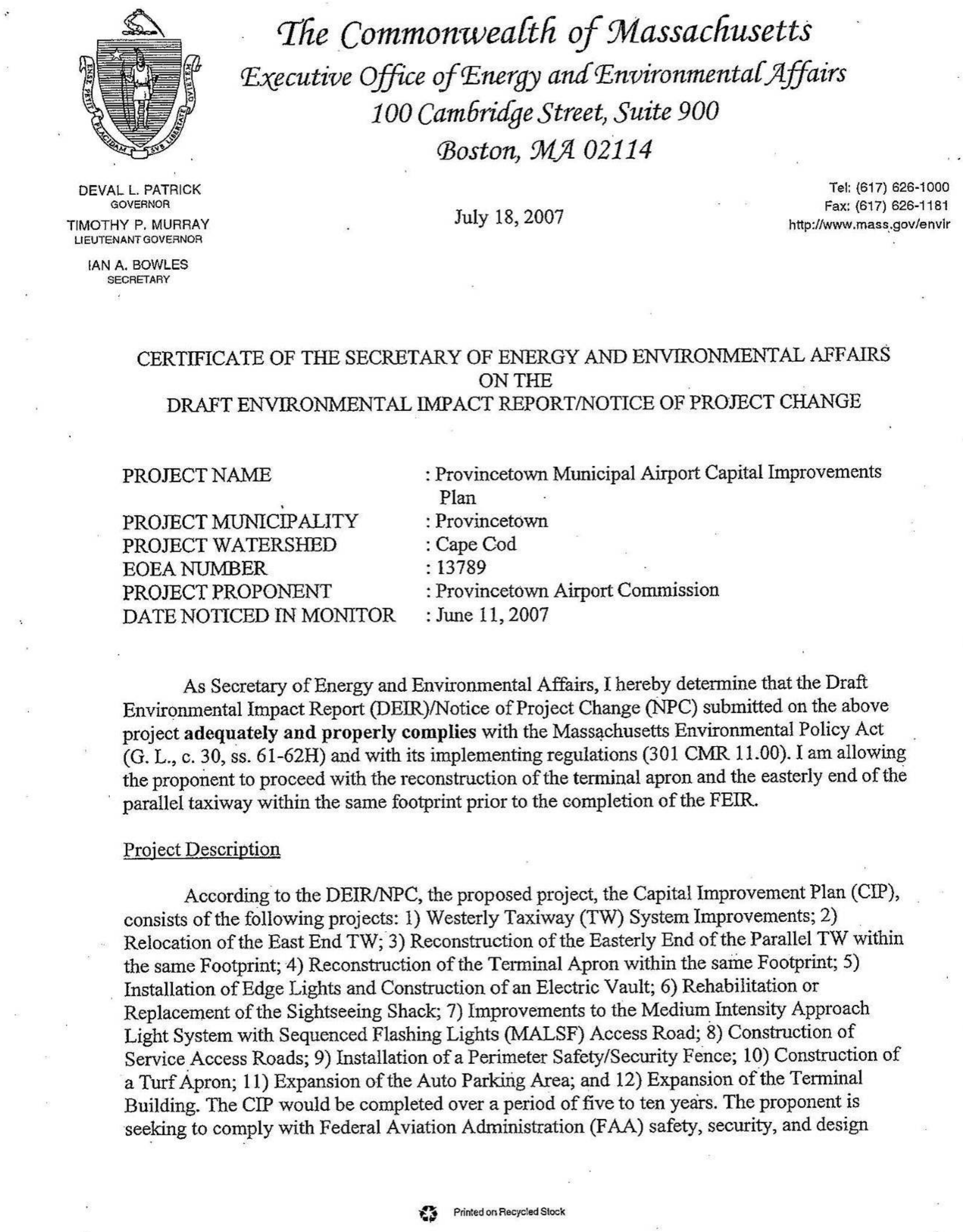
Horsley Witten Group

Amy Ball, Senior Wetland Scientist
Amanda Crouch-Smith, Environmental Scientist
Joseph Longo, Associate Principal

SECTION 13.0 MEPA / NEPA DOCUMENTS

13.1 Secretary's Certificate on the NPC/Draft EIR/EA and Responses

This section contains the Certificate of the Secretary of Energy and Environmental Affairs on the NPC/DEIR/EA (No. 13789), July 18, 2007, and responses to comments in the Certificate. The specific comments have been identified by a number in the left hand margin of the certificate. Responses are identified with a corresponding number.



The Commonwealth of Massachusetts
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114

DEVAL L. PATRICK
GOVERNOR
TIMOTHY P. MURRAY
LIEUTENANT GOVERNOR
IAN A. BOWLES
SECRETARY

Tel: (617) 626-1000
Fax: (617) 626-1181
http://www.mass.gov/envir

July 18, 2007

CERTIFICATE OF THE SECRETARY OF ENERGY AND ENVIRONMENTAL AFFAIRS ON THE DRAFT ENVIRONMENTAL IMPACT REPORT/NOTICE OF PROJECT CHANGE

PROJECT NAME	: Provincetown Municipal Airport Capital Improvements Plan
PROJECT MUNICIPALITY	: Provincetown
PROJECT WATERSHED	: Cape Cod
EOEA NUMBER	: 13789
PROJECT PROPONENT	: Provincetown Airport Commission
DATE NOTICED IN MONITOR	: June 11, 2007

As Secretary of Energy and Environmental Affairs, I hereby determine that the Draft Environmental Impact Report (DEIR)/Notice of Project Change (NPC) submitted on the above project **adequately and properly complies** with the Massachusetts Environmental Policy Act (G. L., c. 30, ss. 61-62H) and with its implementing regulations (301 CMR 11.00). I am allowing the proponent to proceed with the reconstruction of the terminal apron and the easterly end of the parallel taxiway within the same footprint prior to the completion of the FEIR.

Project Description

According to the DEIR/NPC, the proposed project, the Capital Improvement Plan (CIP), consists of the following projects: 1) Westerly Taxiway (TW) System Improvements; 2) Relocation of the East End TW; 3) Reconstruction of the Easterly End of the Parallel TW within the same Footprint; 4) Reconstruction of the Terminal Apron within the same Footprint; 5) Installation of Edge Lights and Construction of an Electric Vault; 6) Rehabilitation or Replacement of the Sightseeing Shack; 7) Improvements to the Medium Intensity Approach Light System with Sequenced Flashing Lights (MALSF) Access Road; 8) Construction of Service Access Roads; 9) Installation of a Perimeter Safety/Security Fence; 10) Construction of a Turf Apron; 11) Expansion of the Auto Parking Area; and 12) Expansion of the Terminal Building. The CIP would be completed over a period of five to ten years. The proponent is seeking to comply with Federal Aviation Administration (FAA) safety, security, and design

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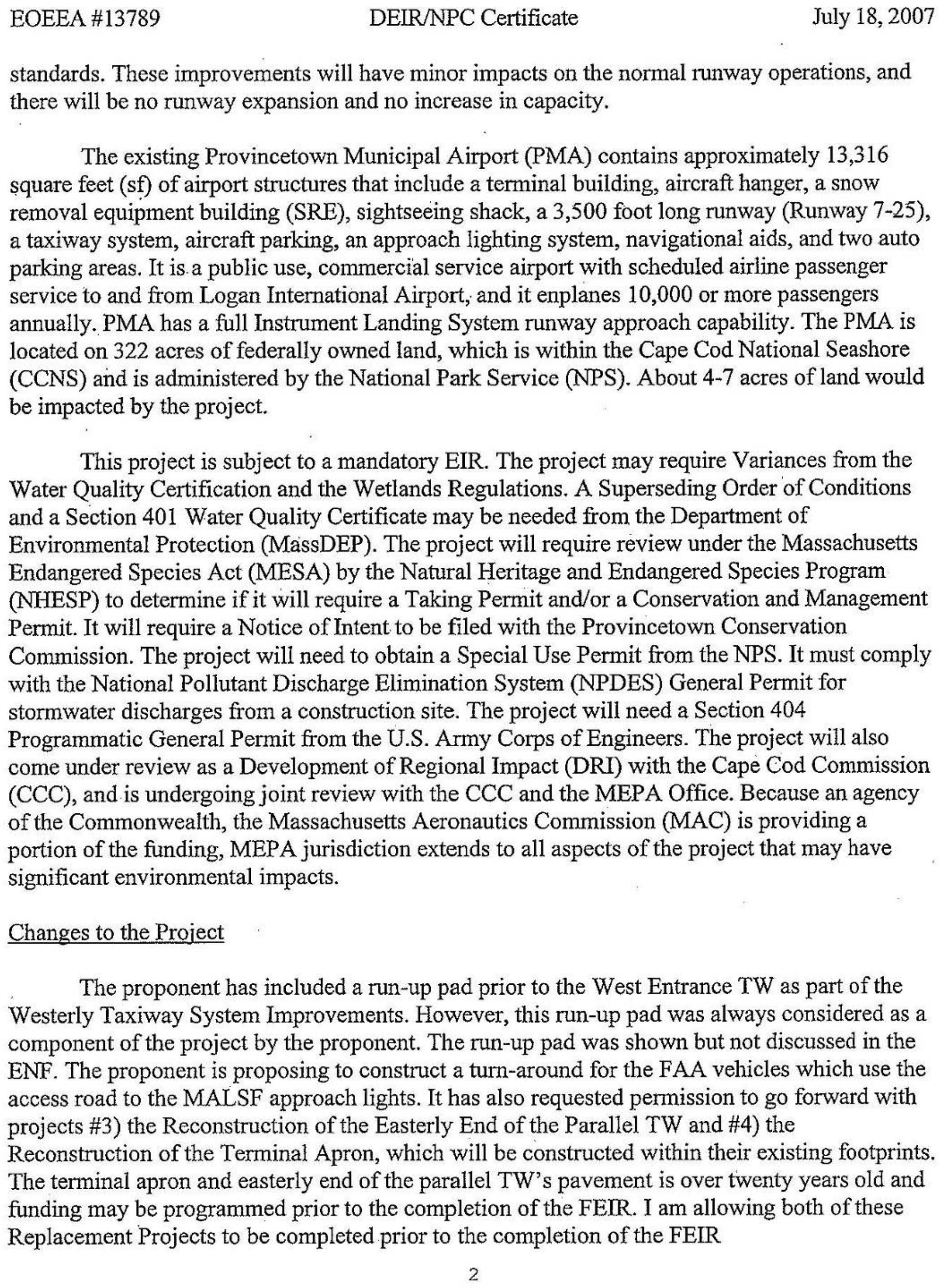


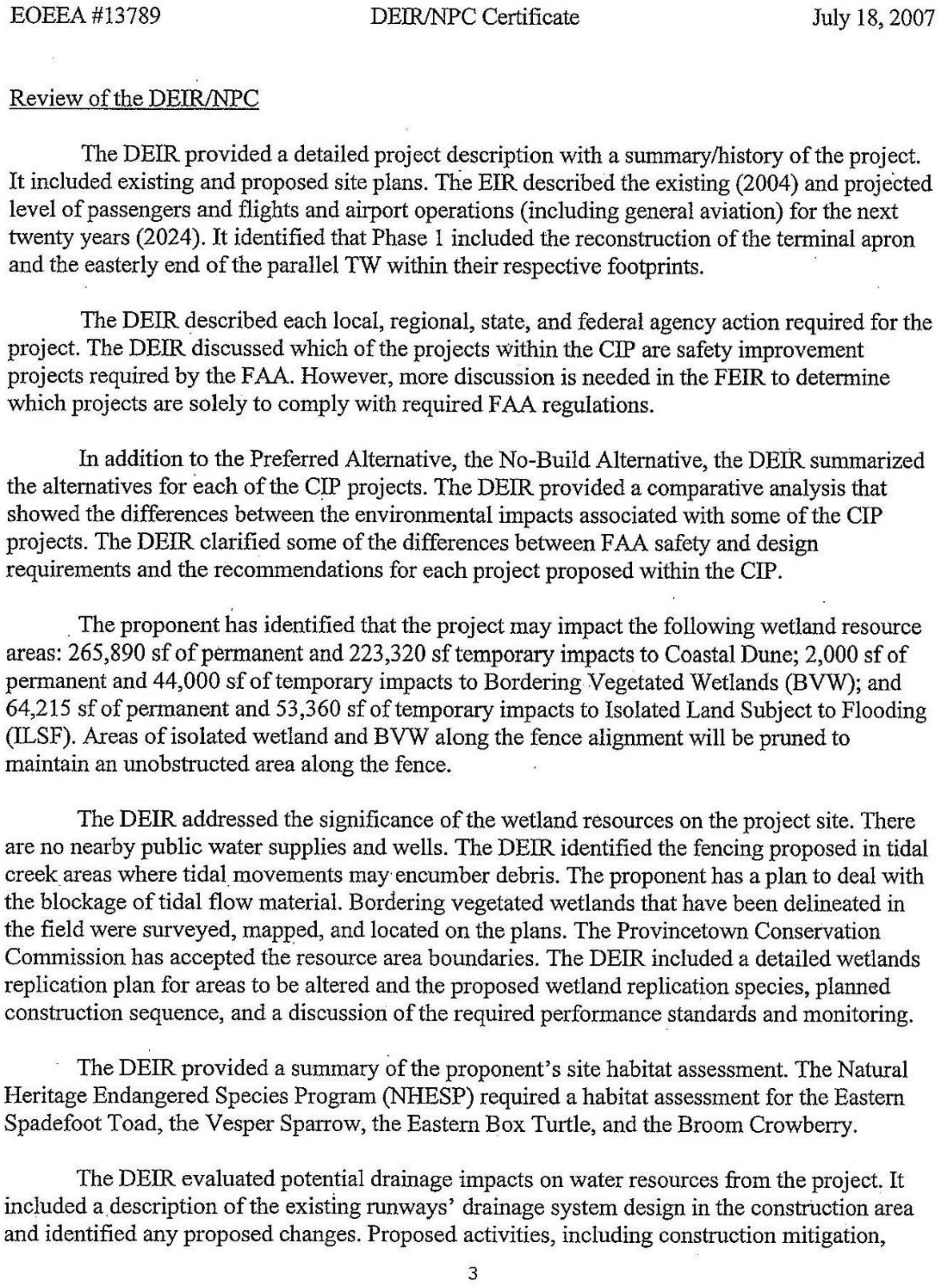
standards. These improvements will have minor impacts on the normal runway operations, and there will be no runway expansion and no increase in capacity.

The existing Provincetown Municipal Airport (PMA) contains approximately 13,316 square feet (sf) of airport structures that include a terminal building, aircraft hanger, a snow removal equipment building (SRE), sightseeing shack, a 3,500 foot long runway (Runway 7-25), a taxiway system, aircraft parking, an approach lighting system, navigational aids, and two auto parking areas. It is a public use, commercial service airport with scheduled airline passenger service to and from Logan International Airport, and it enplanes 10,000 or more passengers annually. PMA has a full Instrument Landing System runway approach capability. The PMA is located on 322 acres of federally owned land, which is within the Cape Cod National Seashore (CCNS) and is administered by the National Park Service (NPS). About 4-7 acres of land would be impacted by the project.

This project is subject to a mandatory EIR. The project may require Variances from the Water Quality Certification and the Wetlands Regulations. A Superseding Order of Conditions and a Section 401 Water Quality Certificate may be needed from the Department of Environmental Protection (MassDEP). The project will require review under the Massachusetts Endangered Species Act (MESA) by the Natural Heritage and Endangered Species Program (NHESP) to determine if it will require a Taking Permit and/or a Conservation and Management Permit. It will require a Notice of Intent to be filed with the Provincetown Conservation Commission. The project will need to obtain a Special Use Permit from the NPS. It must comply with the National Pollutant Discharge Elimination System (NPDES) General Permit for stormwater discharges from a construction site. The project will need a Section 404 Programmatic General Permit from the U.S. Army Corps of Engineers. The project will also come under review as a Development of Regional Impact (DRI) with the Cape Cod Commission (CCC), and is undergoing joint review with the CCC and the MEPA Office. Because an agency of the Commonwealth, the Massachusetts Aeronautics Commission (MAC) is providing a portion of the funding, MEPA jurisdiction extends to all aspects of the project that may have significant environmental impacts.

Changes to the Project

The proponent has included a run-up pad prior to the West Entrance TW as part of the Westerly Taxiway System Improvements. However, this run-up pad was always considered as a component of the project by the proponent. The run-up pad was shown but not discussed in the ENF. The proponent is proposing to construct a turn-around for the FAA vehicles which use the access road to the MALSF approach lights. It has also requested permission to go forward with projects #3) the Reconstruction of the Easterly End of the Parallel TW and #4) the Reconstruction of the Terminal Apron, which will be constructed within their existing footprints. The terminal apron and easterly end of the parallel TW's pavement is over twenty years old and funding may be programmed prior to the completion of the FEIR. I am allowing both of these Replacement Projects to be completed prior to the completion of the FEIR



Review of the DEIR/NPC

The DEIR provided a detailed project description with a summary/history of the project. It included existing and proposed site plans. The EIR described the existing (2004) and projected level of passengers and flights and airport operations (including general aviation) for the next twenty years (2024). It identified that Phase 1 included the reconstruction of the terminal apron and the easterly end of the parallel TW within their respective footprints.

The DEIR described each local, regional, state, and federal agency action required for the project. The DEIR discussed which of the projects within the CIP are safety improvement projects required by the FAA. However, more discussion is needed in the FEIR to determine which projects are solely to comply with required FAA regulations.

In addition to the Preferred Alternative, the No-Build Alternative, the DEIR summarized the alternatives for each of the CIP projects. The DEIR provided a comparative analysis that showed the differences between the environmental impacts associated with some of the CIP projects. The DEIR clarified some of the differences between FAA safety and design requirements and the recommendations for each project proposed within the CIP.

The proponent has identified that the project may impact the following wetland resource areas: 265,890 sf of permanent and 223,320 sf temporary impacts to Coastal Dune; 2,000 sf of permanent and 44,000 sf of temporary impacts to Bordering Vegetated Wetlands (BVW); and 64,215 sf of permanent and 53,360 sf of temporary impacts to Isolated Land Subject to Flooding (ILSF). Areas of isolated wetland and BVW along the fence alignment will be pruned to maintain an unobstructed area along the fence.

The DEIR addressed the significance of the wetland resources on the project site. There are no nearby public water supplies and wells. The DEIR identified the fencing proposed in tidal creek areas where tidal movements may encumber debris. The proponent has a plan to deal with the blockage of tidal flow material. Bordering vegetated wetlands that have been delineated in the field were surveyed, mapped, and located on the plans. The Provincetown Conservation Commission has accepted the resource area boundaries. The DEIR included a detailed wetlands replication plan for areas to be altered and the proposed wetland replication species, planned construction sequence, and a discussion of the required performance standards and monitoring.

The DEIR provided a summary of the proponent's site habitat assessment. The Natural Heritage Endangered Species Program (NHESP) required a habitat assessment for the Eastern Spadefoot Toad, the Vesper Sparrow, the Eastern Box Turtle, and the Broom Crowberry.

The DEIR evaluated potential drainage impacts on water resources from the project. It included a description of the existing runways' drainage system design in the construction area and identified any proposed changes. Proposed activities, including construction mitigation, erosion and sedimentation control were evaluated. The DEIR discussed the consistency of the project with the provisions of the National Pollutant Discharge Elimination System (NPDES) General Permit from the U.S. Environmental Protection Agency for stormwater discharges from construction sites. It included discussion of best management practices employed to meet the NPDES requirements, and included a draft Pollution Prevention Plan in Appendix 3.1.

In Appendix 4, the DEIR provided the weekday morning, midday and evening peak hour traffic LOS analysis for the Route 6/Racepoint Road intersection, which included volume to capacity ratios, delays, and queues for the 95th percentile. The DEIR's LOS table included each movement for this intersection. It included a map of the traffic study area.

The DEIR identified the number of parking spaces recommended by the Institute of Traffic Engineers for an airport. The proponent has proposed pervious parking spaces.

The DEIR identified the existing Transportation Demand Management (TDM) measures, such as rental car availability, taxicabs, and bus service to the center of Provincetown.

There are no sidewalks along Race Point Road, and none are proposed. Walking is prohibited on the CCNS Bikeway that is adjacent to the airport.

The DEIR presented existing noise contours at the airport. It stated that estimated projected noise levels and contours for the next ten years (2014) would not increase from the CIP projects.

During the DEIR process, the proponent has consulted with the Massachusetts Historical Commission (MHC) and the Provincetown Historic Preservation Commission.

The DEIR included a visual resource assessment in Section 5. The visual resource assessment examined the visual impacts of the project included in the CIP, especially building expansions and vegetation clearing, on the Cape Cod National Seashore.

The DEIR did not identify any hazardous waste studies and remediation efforts undertaken at the project site by the proponent.

The FEIR should resolve all the remaining issues outlined below, as required by this Certificate. It should include a copy of this Certificate.

Project Description

The FEIR should provide a detailed project description with a summary/history of the project. It should carefully describe all elements of each of the twelve CIP projects. The FEIR
① should clarify which of the proposed CIP projects are required by FAA regulations vs. suggested by FAA guidelines. It should include existing and proposed site plans. The FEIR should

investigate feasible methods of reducing wetland impacts and the creation of impervious areas. It should summarize the permits required for the project. The FEIR should demonstrate how each of the projects within the CIP is consistent with the applicable performance standards. It should contain sufficient information to allow the permitting agencies to understand the environmental consequences of their official actions related to the project. The FEIR should identify if the CIP is compatible with zoning, regional planning, and Executive Order 385.

② The FEIR should describe how the twelve CIP projects would be phased over the anticipated five to ten years. It should detail how these projects or groups of projects would be phased to go forward.

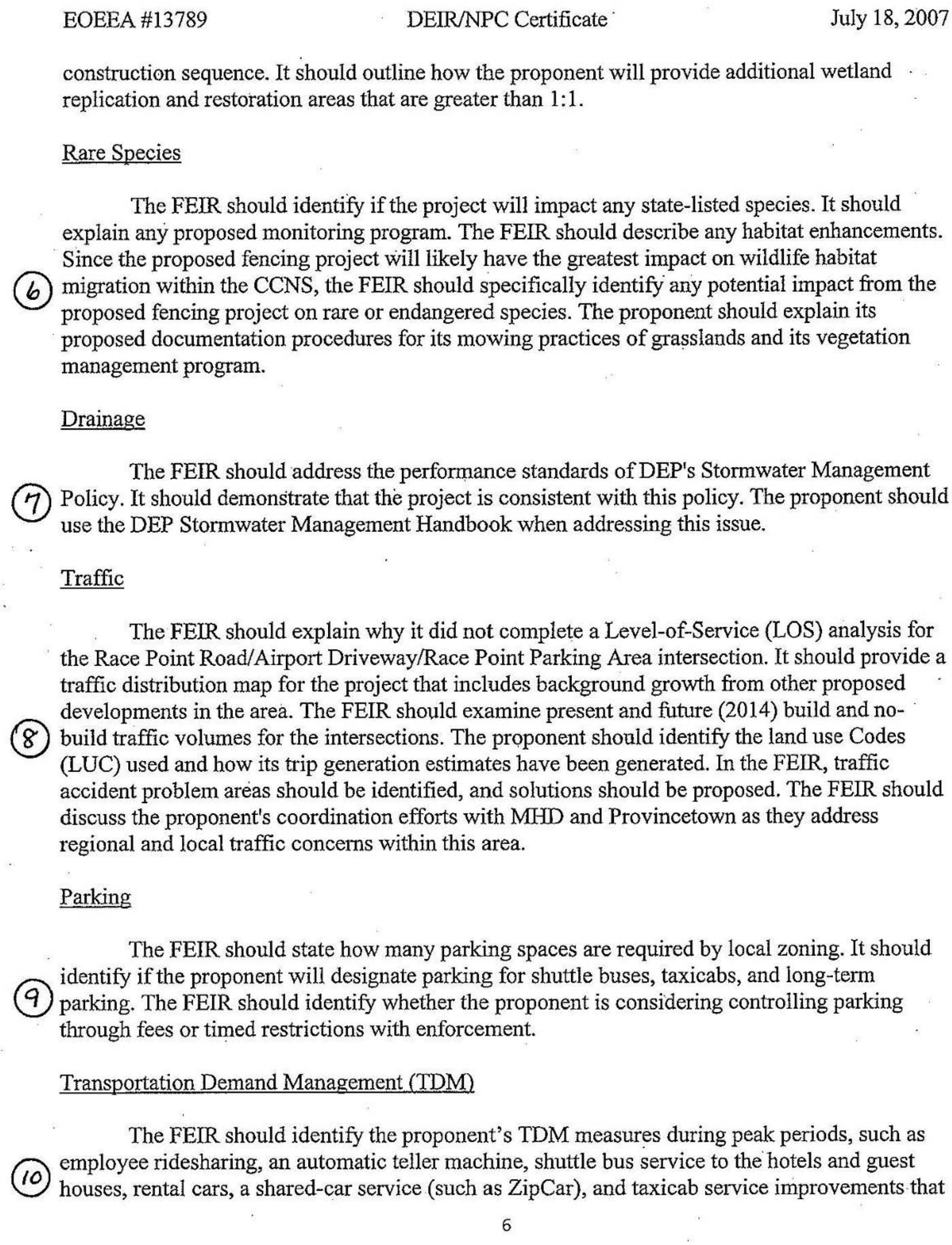
Alternatives Analysis

③ The FEIR should demonstrate that the alternatives for the expansion of the turf apron, parking lot and the terminal building have been evaluated with the ability to avoid or minimize wetland related impacts. The analysis should clearly present the alternative configurations at the site and identify the advantages and disadvantages of the Preferred Alternative. The FEIR should provide a comparative analysis that clearly shows the differences between the environmental impacts associated with each of the alternatives for the turf apron, parking lot and terminal expansion CIP projects.

Wetlands

④ The Wetland Section of the FEIR should examine options that avoid impacts to wetland resource areas, their associated buffer zones, riverfront protection areas and 100-year flood plain areas. Wetland figures should identify buffer zones, riverfront areas, and 100-year flood plains. Where it has been demonstrated that impacts are unavoidable, the FEIR should illustrate that the impacts have been minimized, and that the project will be accomplished in a manner that is consistent with the Performance Standards of the Wetlands Regulations (310 CMR 10.00). The FEIR should provide an accurate measurement of the wetland resource areas that will be affected by the project.

⑤ The FEIR should provide the information required by DEP when requesting a variance, as outlined in 310 CMR 10.05(b). According to MassDEP, the proposed expanded turf apron, auto parking lot and terminal building appear to be related to forecasted increases in airport capacity, and these non-safety related CIP projects will be required to be designed in conformance to the applicable wetlands regulations. The proponent needs to evaluate practicable alternatives, to explain why the preferred alternative is allowed under the regulations, and to describe the mitigation measures proposed to reduce the impacts. The FEIR should provide evidence of an overriding public interest that is associated with the project as stated in MassDEP's comment letter. The FEIR should include replication locations delineated on plans, elevations, typical cross sections, test pits or soil boring logs, groundwater elevations, the hydrology of areas to be altered and replicated, list of wetland plant species, and the planned



construction sequence. It should outline how the proponent will provide additional wetland replication and restoration areas that are greater than 1:1.

Rare Species

The FEIR should identify if the project will impact any state-listed species. It should
explain any proposed monitoring program. The FEIR should describe any habitat enhancements.
Since the proposed fencing project will likely have the greatest impact on wildlife habitat
⑥ migration within the CCNS, the FEIR should specifically identify any potential impact from the
proposed fencing project on rare or endangered species. The proponent should explain its
proposed documentation procedures for its mowing practices of grasslands and its vegetation
management program.

Drainage

The FEIR should address the performance standards of DEP's Stormwater Management
⑦ Policy. It should demonstrate that the project is consistent with this policy. The proponent should
use the DEP Stormwater Management Handbook when addressing this issue.

Traffic

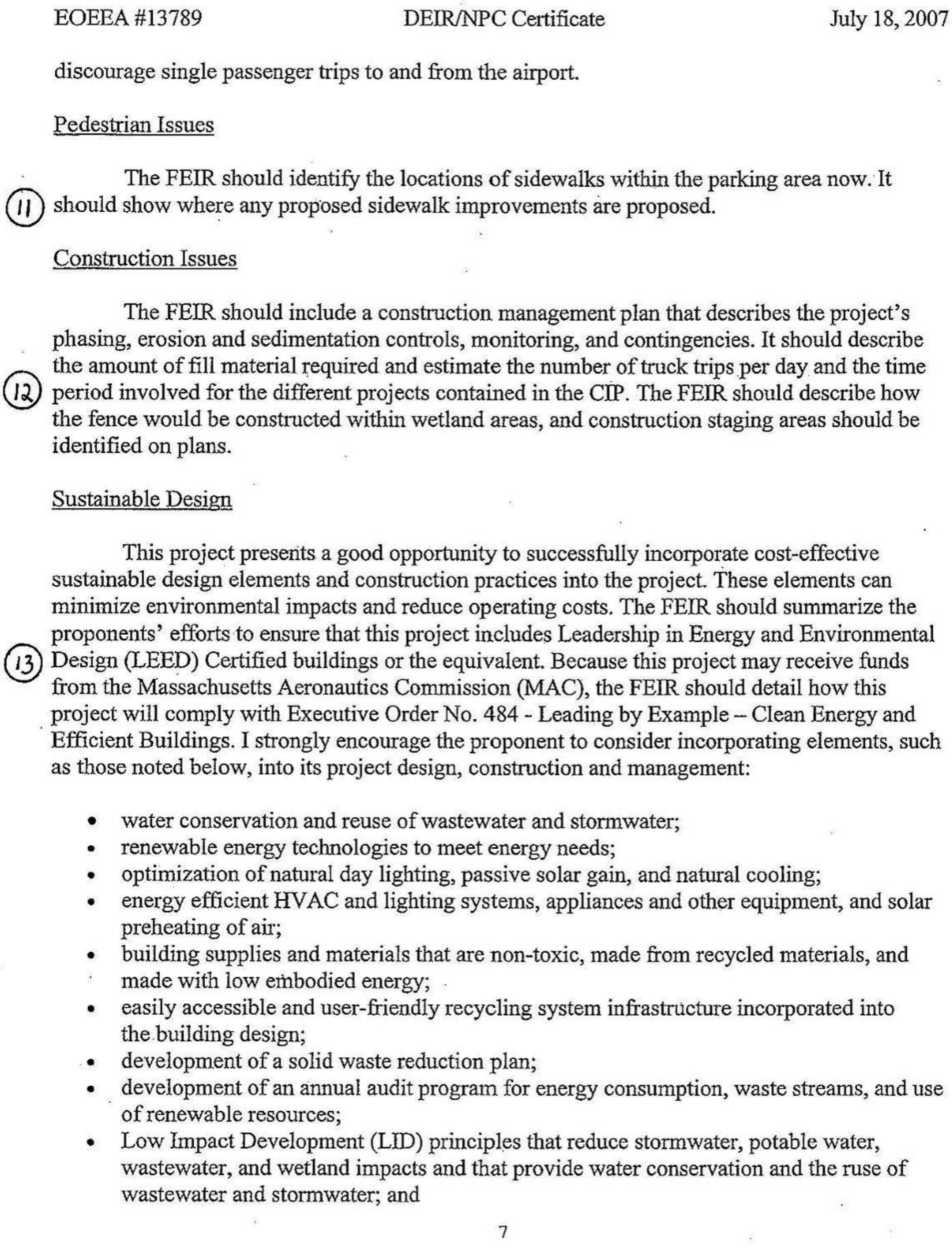
The FEIR should explain why it did not complete a Level-of-Service (LOS) analysis for
the Race Point Road/Airport Driveway/Race Point Parking Area intersection. It should provide a
traffic distribution map for the project that includes background growth from other proposed
developments in the area. The FEIR should examine present and future (2014) build and no-
⑧ build traffic volumes for the intersections. The proponent should identify the land use Codes
(LUC) used and how its trip generation estimates have been generated. In the FEIR, traffic
accident problem areas should be identified, and solutions should be proposed. The FEIR should
discuss the proponent's coordination efforts with MHD and Provincetown as they address
regional and local traffic concerns within this area.

Parking

The FEIR should state how many parking spaces are required by local zoning. It should
identify if the proponent will designate parking for shuttle buses, taxicabs, and long-term
⑨ parking. The FEIR should identify whether the proponent is considering controlling parking
through fees or timed restrictions with enforcement.

Transportation Demand Management (TDM)

The FEIR should identify the proponent's TDM measures during peak periods, such as
employee ridesharing, an automatic teller machine, shuttle bus service to the hotels and guest
⑩ houses, rental cars, a shared-car service (such as ZipCar), and taxicab service improvements that



discourage single passenger trips to and from the airport.

Pedestrian Issues

⑪ The FEIR should identify the locations of sidewalks within the parking area now. It should show where any proposed sidewalk improvements are proposed.

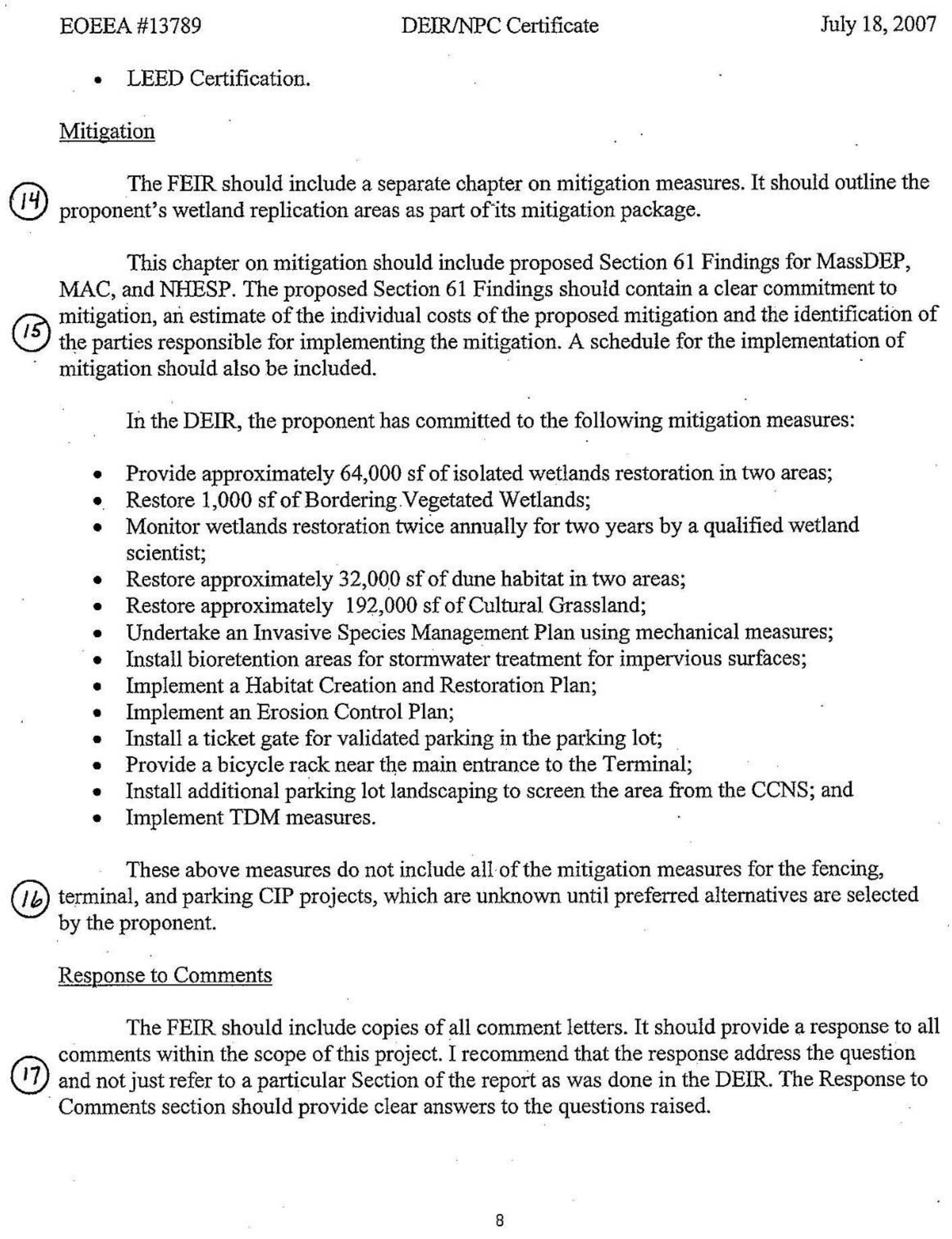
Construction Issues

⑫ The FEIR should include a construction management plan that describes the project's phasing, erosion and sedimentation controls, monitoring, and contingencies. It should describe the amount of fill material required and estimate the number of truck trips per day and the time period involved for the different projects contained in the CIP. The FEIR should describe how the fence would be constructed within wetland areas, and construction staging areas should be identified on plans.

Sustainable Design

⑬ This project presents a good opportunity to successfully incorporate cost-effective sustainable design elements and construction practices into the project. These elements can minimize environmental impacts and reduce operating costs. The FEIR should summarize the proponents' efforts to ensure that this project includes Leadership in Energy and Environmental Design (LEED) Certified buildings or the equivalent. Because this project may receive funds from the Massachusetts Aeronautics Commission (MAC), the FEIR should detail how this project will comply with Executive Order No. 484 - Leading by Example – Clean Energy and Efficient Buildings. I strongly encourage the proponent to consider incorporating elements, such as those noted below, into its project design, construction and management:

- water conservation and reuse of wastewater and stormwater;
- renewable energy technologies to meet energy needs;
- optimization of natural day lighting, passive solar gain, and natural cooling;
- energy efficient HVAC and lighting systems, appliances and other equipment, and solar preheating of air;
- building supplies and materials that are non-toxic, made from recycled materials, and made with low embodied energy;
- easily accessible and user-friendly recycling system infrastructure incorporated into the building design;
- development of a solid waste reduction plan;
- development of an annual audit program for energy consumption, waste streams, and use of renewable resources;
- Low Impact Development (LID) principles that reduce stormwater, potable water, wastewater, and wetland impacts and that provide water conservation and the ruse of wastewater and stormwater; and



- LEED Certification.

Mitigation

⑭ The FEIR should include a separate chapter on mitigation measures. It should outline the proponent's wetland replication areas as part of its mitigation package.

⑮ This chapter on mitigation should include proposed Section 61 Findings for MassDEP, MAC, and NHESP. The proposed Section 61 Findings should contain a clear commitment to mitigation, an estimate of the individual costs of the proposed mitigation and the identification of the parties responsible for implementing the mitigation. A schedule for the implementation of mitigation should also be included.

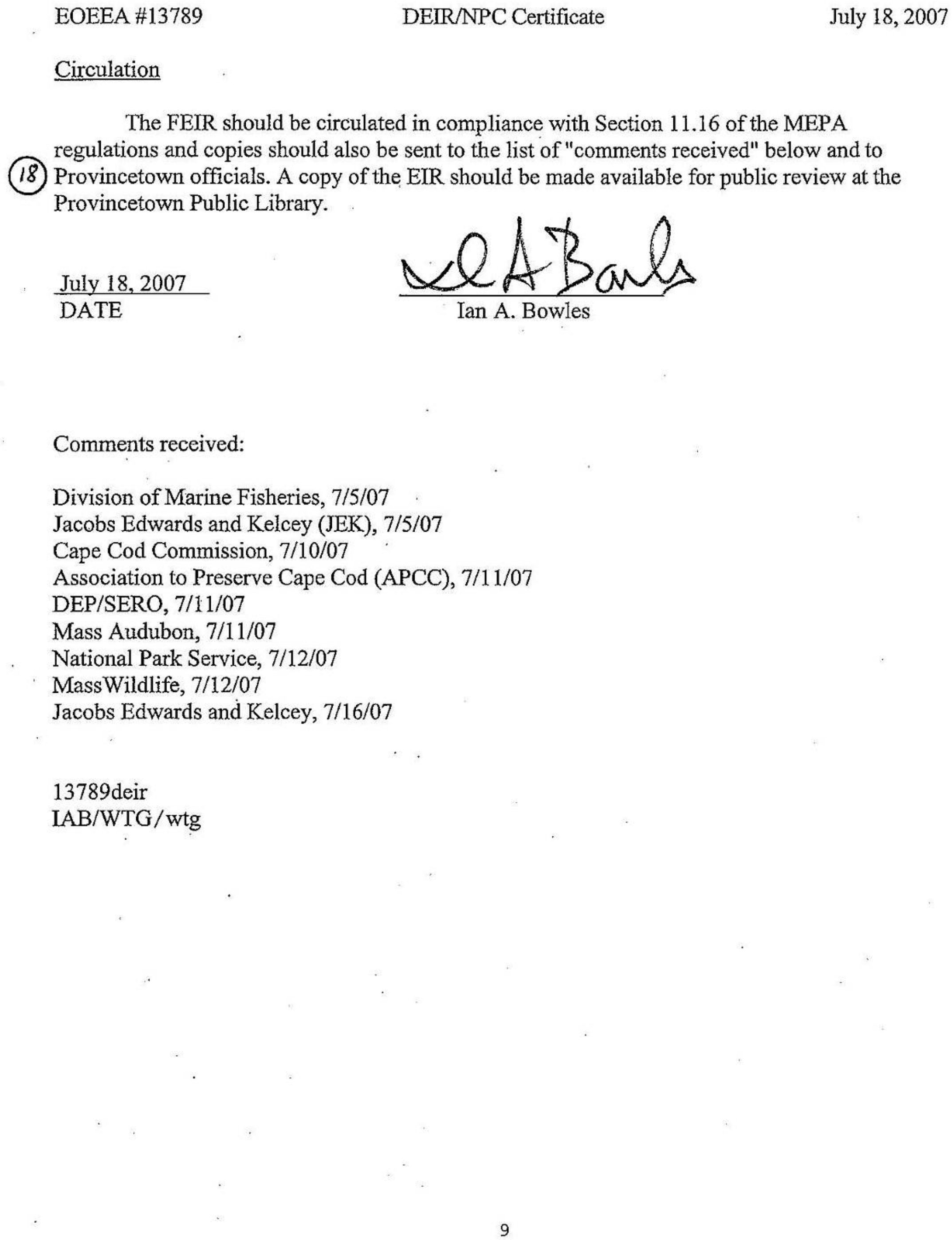
In the DEIR, the proponent has committed to the following mitigation measures:

- Provide approximately 64,000 sf of isolated wetlands restoration in two areas;
- Restore 1,000 sf of Bordering Vegetated Wetlands;
- Monitor wetlands restoration twice annually for two years by a qualified wetland scientist;
- Restore approximately 32,000 sf of dune habitat in two areas;
- Restore approximately 192,000 sf of Cultural Grassland;
- Undertake an Invasive Species Management Plan using mechanical measures;
- Install bioretention areas for stormwater treatment for impervious surfaces;
- Implement a Habitat Creation and Restoration Plan;
- Implement an Erosion Control Plan;
- Install a ticket gate for validated parking in the parking lot;
- Provide a bicycle rack near the main entrance to the Terminal;
- Install additional parking lot landscaping to screen the area from the CCNS; and
- Implement TDM measures.

⑯ These above measures do not include all of the mitigation measures for the fencing, terminal, and parking CIP projects, which are unknown until preferred alternatives are selected by the proponent.

Response to Comments

⑰ The FEIR should include copies of all comment letters. It should provide a response to all comments within the scope of this project. I recommend that the response address the question and not just refer to a particular Section of the report as was done in the DEIR. The Response to Comments section should provide clear answers to the questions raised.



EOEEA #13789 DEIR/NPC Certificate July 18, 2007

Circulation

The FEIR should be circulated in compliance with Section 11.16 of the MEPA regulations and copies should also be sent to the list of "comments received" below and to ⑱ Provincetown officials. A copy of the EIR should be made available for public review at the Provincetown Public Library.

July 18, 2007
DATE

Ian A. Bowles

Comments received:

Division of Marine Fisheries, 7/5/07
Jacobs Edwards and Kelcey (JEK), 7/5/07
Cape Cod Commission, 7/10/07
Association to Preserve Cape Cod (APCC), 7/11/07
DEP/SERO, 7/11/07
Mass Audubon, 7/11/07
National Park Service, 7/12/07
MassWildlife, 7/12/07
Jacobs Edwards and Kelcey, 7/16/07

13789deir
IAB/WTG/wtg

Response to comments in MEPA Certificate on the Draft Environmental Impact Report/Notice of Project Change, July 18, 2007.

1. A project description of each of the twelve CIP projects is provided in Section 6 and illustrated on the figures in Section 6. A summary of the projects with a description of work completed since the submission of the Draft document is provided in Section 1. Additional wildlife and wetland surveys have been completed, and additional alternatives have been developed for the auto parking lot, turf apron, and fence.

   Section 2, Purpose and Need, has been revised and expanded to provide additional information on FAA, TSA, and MassDOT Aeronautics regulations. The FAA publishes documents known as Advisory Circulars (AC) and Orders which while not regulations provide accepted operational safety design standards to meet responsibilities pursuant to the regulations. The use of these standards is mandatory for airport projects receiving Federal grant-in-aid assistance. AIP funded projects are required to comply with certain FAA Advisory Circulars (AC).

   The specific design standards that apply to each project are identified in Section 2.1. Table 2.1 lists all the regulations that pertain to the projects. The applicable portions of the referenced documents are provided in Appendix 6. Table 2.2 summarizes which elements have been proposed in response to safety and security requirements and which are capacity projects.

   Wetland impacts have been reduced with new alternatives for the fence, turf apron and auto parking. Wetland replication for direct IVW impacts is proposed at a 1:1 on-site ratio and BVW wetland impacts is proposed at a 2:1 on-site ratio. The preferred alternative for the Terminal project is the vertical expansion, which will not impact wetlands.

   The permitting performance standards and permitting phasing are discussed in Sections 6 and 8.

   The project is compatible with the applicable Minimum Performance Standards (MPS) of the Cape Cod Regional Policy Plan. Appendix 7 contains additional information. The Town of Provincetown Zoning Bylaw identifies the area as the Seashore District. The project meets the requirement to have a minimum of five parking spaces or one space per 350 SF of floor space under Miscellaneous Use for this zoning district.

2. Section 6 discusses the phasing of the projects. The Terminal Apron reconstruction project was approved by the Provincetown Conservation Commission and was constructed in the fall of 2008. It is expected that funding for the taxiway projects will be earmarked for the beginning of the 5-10 year planning period. Additional information can be found in Section 6.

3. Since the circulation of the Draft document, the alternatives analysis has been expanded and additional alternatives have been developed for the fence, turf apron and auto parking to respond to concerns about environmentally sensitive areas. Section 3 discusses the environmental impacts associated with each of the alternatives for the projects.

   All previously considered alternatives were revisited in order to fully quantify all potential environmental (e.g., wetland, wildlife habitat, etc.) impacts. New concepts were also designed and compared to older concepts in order create and/or identify the environmentally preferred alternative. Specifically, the vertical expansion of the Terminal building was identified as the preferred alternative and will have no direct wetland impacts. A new concept for the auto parking expansion was also developed and compared to previous alternatives. Now phased, the parking lot will not have any wetland impacts and will minimize alterations within coastal dune habitats, while still meeting the project purpose. See Section 3.0 for a more detailed analysis and comparison of the parking alternatives. In addition, a reduced dimension for the turf apron has been designed to avoid direct wetland impacts.

4. Preferred alternatives that have been identified will avoid and minimize impacts to wetland resource areas and associated buffer zones to the fullest extent practicable as discussed in Sections 3, 5 and 6. Certain CIP projects that were developed to address FAA safety standards will result in unavoidable impacts to wetlands. These projects have an overriding public security/safety interest and include: safety/security fence, westerly taxiway system improvements, relocation of the east end taxiway, improvement to the access road to the MALSF approach lights, and the service access roads to the LES and to the AWOS. Mitigation measures were designed to address the Wetlands Protection Act and other mitigation guidelines to the extent practical. Wetland mitigation will occur at approximately a 1:1 on-site restoration rate for IVW impacts and 2:1 on-site restoration rate for BVW impacts. Table 5-3 summarizes resource areas to be impacted as well as the area to be mitigated.

   Several of the CIP projects will result in alterations within the 100-foot Buffer Zone of one or more wetland areas. In general, the existing Buffer Zone composition consists of one or more of the following: unaltered coastal dune, cultural/managed grasslands, impervious surfaces (buildings, pavement), or in some cases, where wetland areas are in close proximity to each other, the buffer zone to one wetland may encompass one or more of the adjacent wetlands.

5. On-site wetland mitigation is proposed in areas where existing impervious surfaces will be removed. The draft wetland restoration plans have been developed to comply with several regulations and permit performance standards that relate to wetlands, including the Wetlands Protection Act, the Provincetown Wetland Bylaw, Section 401 Water Quality Certification, Section 404 Army Corps of Engineers permit, and the CCC Regional Policy Plan (RPP).

   Additional mitigation measures, such as creation of dune habitat, are proposed. Mitigation measures proposed for stormwater treatment include infiltration swales and bioretention for the auto parking area, and implementation of wetland enhancement through management of invasive species.

   As discussed in Section 5.0, several of the CIP projects will result in unavoidable alterations to freshwater wetlands (isolated and/or bordering). These impacts have been avoided and minimized to the extent practicable as discussed in Sections 3, 5 and 6. The proposed onsite wetland restoration is shown on figures in Section 7. The proposed wetland restoration reflects a 2:1 on-site mitigation ratio for BVW impacts and 1:1 on-site mitigation ratio for all the direct impacts resulting from the IVW impacts.

   Relocation of the West End TW and East End TW will result in alterations to isolated freshwater wetlands, presumed to be Isolated Land Subject to Flooding (ILSF). Flood storage capacity of ILSF on-site will not be altered. Construction of the service access road to the AWOS will also result in a small amount of freshwater wetland alteration. The installation of the safety/security fence will also directly alter areas of isolated freshwater wetland as well as BVW. Subsequent abandonment of the existing paved areas provides an opportunity for wetland restoration within the footprint of the formerly paved areas as discussed in Sections 5 and 6. Between 64,000 and 78,000 SF of restored IVW and 5,000 SF of restored BVW wetlands are proposed within the Airport, as mitigation for direct impacts to IVW and BVW. On-site areas have been designated as restoration areas for mitigative efforts to compensate for impacts to isolated freshwater wetlands and BVW. All areas below elevation 10 are considered Land Subject to Coastal Storm Flowage (LSCSF), which has no associated performance standards under the MA WPA.

Wetland Restoration Area A will be located near the northwestern corner of the abandoned West End TW and the Runway 7 End, adjacent to portions of Wetlands C/J/FK and contiguous with Wetland I as shown on Figures 7.1 and 7.3. Wetland Restoration Area C is located within the footprint of the existing East End TW, south of the Terminal apron and contiguous with Wetland H, as shown on Figures 7.2 and 7.4. Wetland Restoration Area C is adjacent to Wetland C/J/FK at the end of Runway 7, as shown on Figures 7.1 and 7.3.

These areas are highly suitable for wetland restoration because they are adjacent to existing wetlands and are close to elevations within existing wetlands. A total of six monitoring wells have been installed in and around areas designated for mitigation, in order to confirm proper hydrologic conditions that will support wetland restoration and creation. Plant species are listed in a Table 7.1 in Section 7.0, along with preliminary planting specifications. Furthermore, restoration of BVW has been increased to achieve an approximately 2:1 on-site mitigation ratio. IVW restoration is shown as Mitigation Areas A and B in Figures 7.1, 7.2, and 7.3.

6. State-listed rare species mapped by NHESP at the Airport include: the Eastern Box Turtle, the Vesper Sparrow, Broom Crowberry, and the Eastern Spadefoot Toad. As part of the review of the Draft EA/EIR, NHESP indicated that the proposed improvement projects might result in a “Take” of the Eastern Spadefoot Toad, and the Eastern Box Turtle if construction avoidance methods were not developed. The NHESP also indicated that, with certain construction conditions, a “Take” may be avoided for the Vesper Sparrow and the Eastern Spadefoot Toad. NHESP emphasized that the Airport should try to avoid a “Take,” if possible.

   Since the NPC/Draft EIR/EA, the Project Team has met with NHESP twice (see minutes provided in Section 10.1) to discuss ways to minimize impacts to all listed species. Additional design alternatives, construction phase measures, and operational mitigation measures have been developed to avoid a “Take” of any listed species at the Airport as a result of the CIP projects. This FEIR/EA reflects those measures. A MESA Project Review Checklist will be submitted to NHESP for their review and determination.

   A new fence concept has been developed to minimize habitat fragmentation and habitat degradation of the four state-listed species found at the Airport. The fence alignment has been developed to avoid the prime Spadefoot habitat. Gaps along the fence bottom are proposed, so as to avoid a “Take” of the Eastern Box Turtle as discussed further in Sections 5 and 6. Construction phase and operational mitigation measures have also been developed.

   Mitigation efforts involving habitat restoration, creation, or enhancement for the listed species are also proposed to provide a long term net benefit to the species. Construction will also be timed to avoid breeding times or other periods of peak activity if possible. Pre-construction turtle sweeps and/or a bird census will be conducted.

   The Vegetation Management Plan is discussed in Section 7.4.

7. The expansion of the Airport visitor auto parking area will result in approximately 6,660 SF of new impervious area (Phase 1 and 2). Currently, runoff from the paved aisles flows to the unpaved median and gravel parking spaces and infiltrates into the soil, similar to the other nearby parking lots for visitors to the CCNS beaches.

   Stormwater runoff in the Airport auto parking area has the potential to carry a moderate amount of contaminants typically associated with automobile usage. Mitigation measures have been developed for the auto parking area. The additional parking spaces will be gravel and only the driveway and aisles will be paved. Bioretention systems are shown conceptually on in Section 5. Stormwater BMPs are proposed

Stormwater runoff volume from the three proposed access roads (MALSF, LES and AWOS) will be minimal and, similar to the runway and taxiways, the small volumes of runoff will infiltrate into the underlying soils within the adjacent unpaved areas.

8. The traffic study has been revised and expanded. Utilizing the TMCs collected for this project, the Study Team conducted a level-of-service (LOS) analysis of the signalized intersection of Route 6 at Conwell Street and Race Point Road and the unsignalized intersection of Race Point Road and Airport Drive.

   Under all conditions (2007 Existing, 2024 No Build and 2024 Build), the Signalized Intersection of Route 6 at Conwell Street and Race Point Road currently operates at LOS A during the weekday morning peak hour and at LOS B during the weekday midday, evening and Saturday midday peak hours.

   Under all conditions, the critical movements (all movements from the Provincetown Airport driveway) at the unsignalized intersection of Race Point Road and Airport Drive operate at LOS A during the weekday morning, midday, and evening and Saturday midday peak hours.

   A traffic distribution map is provided in Figure 4 of the Traffic Operation Report in the Traffic Appendix. Present and Future (2024) Build and No Build conditions have been examined. Anticipated 2024 traffic volumes were based on Passenger Enplanement projections published in the Provincetown Airport 2005 Master Plan. The forecasted enplanement totals were applied to a trip rate which was empirically calculated based on the existing amount of vehicular traffic entering and exiting the site. This methodology was suggested by CCC and is similar to one used to generate vehicular trips associated with the Terminal project at the Barnstable Airport. The projected number of trips was then subtracted from the existing traffic, in order to arrive at the increased amount of trips that were estimated to be generated by the Provincetown Airport in the future. A memo provided with the Traffic Report explains in more detail how the land use codes and trip generation estimates have been generated.

   Crash data was obtained from the MassHighway Crash Database for accidents occurring within the study area over the most recent three-year period, 2004-2006. The calculated rates for each intersection were compared with MassHighway’s 2005 Average Accident Rates for District 5, which includes the South Shore and the Cape. The average MEV for District 5 is 0.84 for signalized intersections and 0.59 for unsignalized intersections. The calculated crash rate for the intersection of Route 6 at Race Point Road and Conwell Street is 0.33, lower than average for signalized intersections. There were no crashes at the intersection of Race Point Road and Airport Drive. Additional information is provided in the Traffic Appendix.

9. The Town of Provincetown Zoning Bylaw identifies the area as the Seashore District. The project meets the requirement to have a minimum of five parking spaces or one space per 350 SF of floor space under Miscellaneous Use. Spaces will be designated for rental cars. Taxicabs typically wait at the entrance when flights are expected or respond to calls for a cab. The Breeze shuttle bus makes a stop at the Airport and only briefly parks at the entrance. Parking will be controlled through time and use restrictions, with enforcement.

10. TDM measures such as employee ridesharing are not practical for the Airport given the very small staff that commute at different times and from several towns. ATM machines at small facilities are not economically feasible for financial institutions. ZipCar generally locates cars in

densely urban areas. Free phone service has been installed at the Airport to call a taxi or the shuttle. Rental cars are available at the Airport.

11. There are no sidewalks within the parking area and none are proposed. There is very little pedestrian circulation around the Terminal. The sidewalk at the Terminal entrance is shown on Figure 6.10.

12. A Construction Management Plan is provided in Section 7.5. It details measures to control erosion and sedimentation, special construction methods, and pre-construction monitoring for species. Measures taken to minimize wetland impacts during construction of the fence are included.

13. Opportunities to incorporate sustainable design into the Terminal building will be fully investigated during the design phase. Water conservation measures will include low flow fixtures and faucets with sensors. Water usage will be reduced through the use of draught tolerant native landscape plant materials. Hand dryers in lieu of paper towel dispensers will be evaluated. Building supplies and materials that are non-toxic, made from recycled materials, made with low embodied energy can be specified for new construction work. Energy efficient lighting systems will be specified in new construction work.

    The feasibility of directing roof runoff to planting areas or rain barrels will be investigated. The feasibility of the use of photovoltaic cells will be evaluated but this would need to be reviewed by the NPS for visual impacts.

    The Airport Commission Chairman is on the Town’s Recycling and Reusable Energy Committee. The Chairman has supplied the Airport with multiple recycling receptacles, which have been successfully used to lower solid waste disposal. Since the Airport is at such a remote location and such a small generator of recyclables, it is not included on a commercial pick-up route. However, the Airport Manager and the Commission Chairman take the paper and plastic recyclables to the Town sorting facility themselves. This recycling is anticipated to continue to reduce solid waste at the facility by recycling at the Town’s sorting facility.

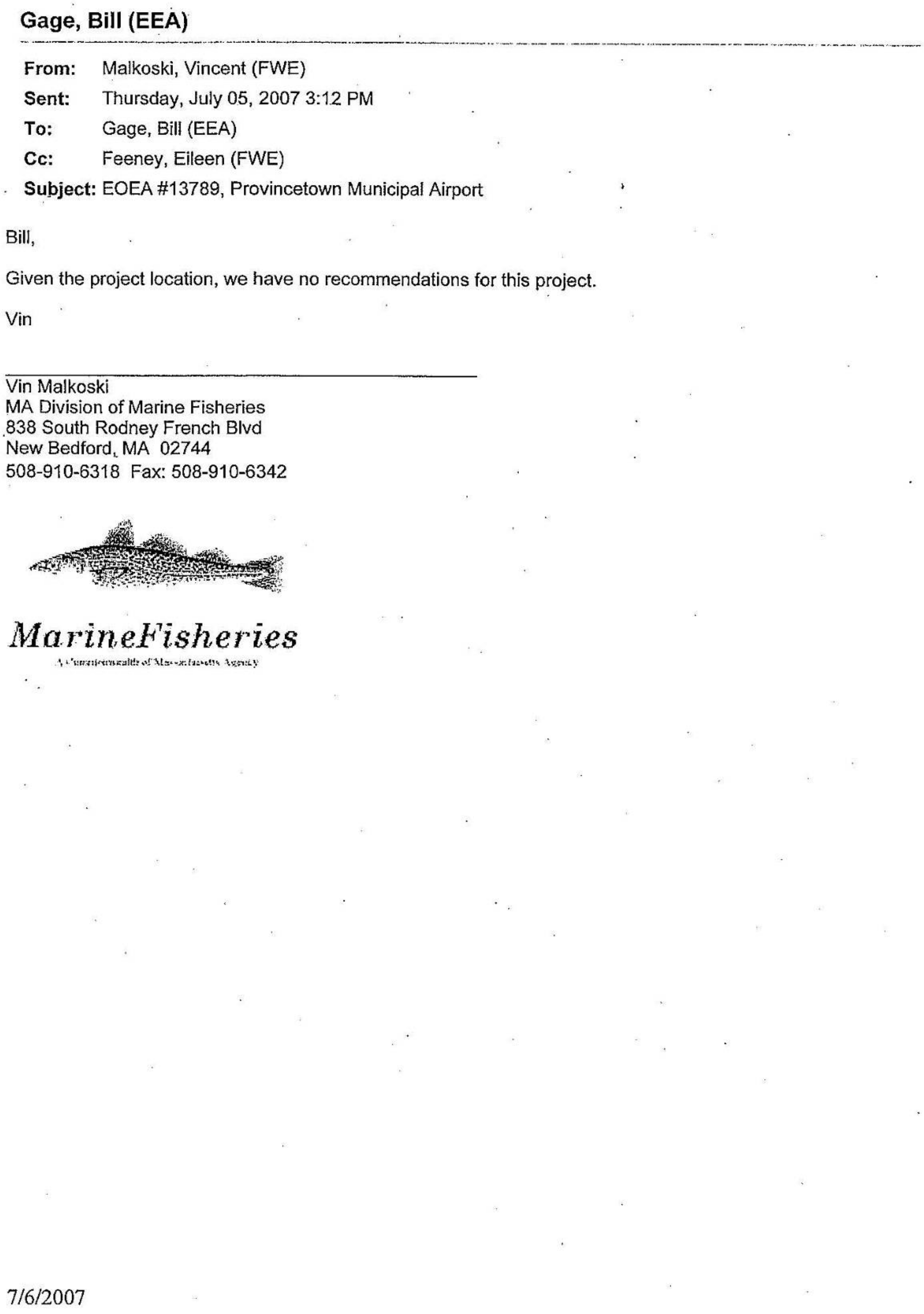
14. Section 7.0 is devoted solely to mitigation. It details, both via text and figures, areas designated for restoration and the mitigation ratio that will be achieved. Wetland restoration areas are considered as part of the mitigation package. Wetland restoration will be conducted at approximately a 1.5:1 ratio. Wetland restoration is known to have a higher success rate that wetland replication because wetland areas will be restored and not created.

    Four areas have been identified for restoration efforts that will incorporate wetland restoration, coastal dune creation and cultural grassland creation to compensate for lost resources as a result of the improvement projects

13.2 Comment Letters on the Draft EIR/NPC and Responses

This Section contains the following comment letters submitted on the Draft EIR/NPC (No. 13789), and responses to comments. The specific comments have been identified by a number in the left margin of the comment letter. Responses are identified with a corresponding number. Some responses are procedural and do not require a response.

Division of Marine Fisheries, July 5, 2007	Page 13-23
Jacobs Edwards & Kelcey, July 5, 2007	Page 13-25
Cape Cod Commission, July 10, 2007	Page 13-27
Association to Preserve Cape Cod (APCC), July 11, 2007	Page 13-41
DEP/SERO, July 11, 2007	Page 13-53
Mass Audubon, July 11, 2007	Page 13-63
National Park Service, July 12, 2007	Page 13-67
MassWildlife, July 12, 2007	Page 13-69



Gage, Bill (EEA)

From: Malkoski, Vincent (FWE)
Sent: Thursday, July 05, 2007 3:12 PM
To: Gage, Bill (EEA)
Cc: Feeney, Eileen (FWE)
Subject: EOEA #13789, Provincetown Municipal Airport

Bill,

Given the project location, we have no recommendations for this project.

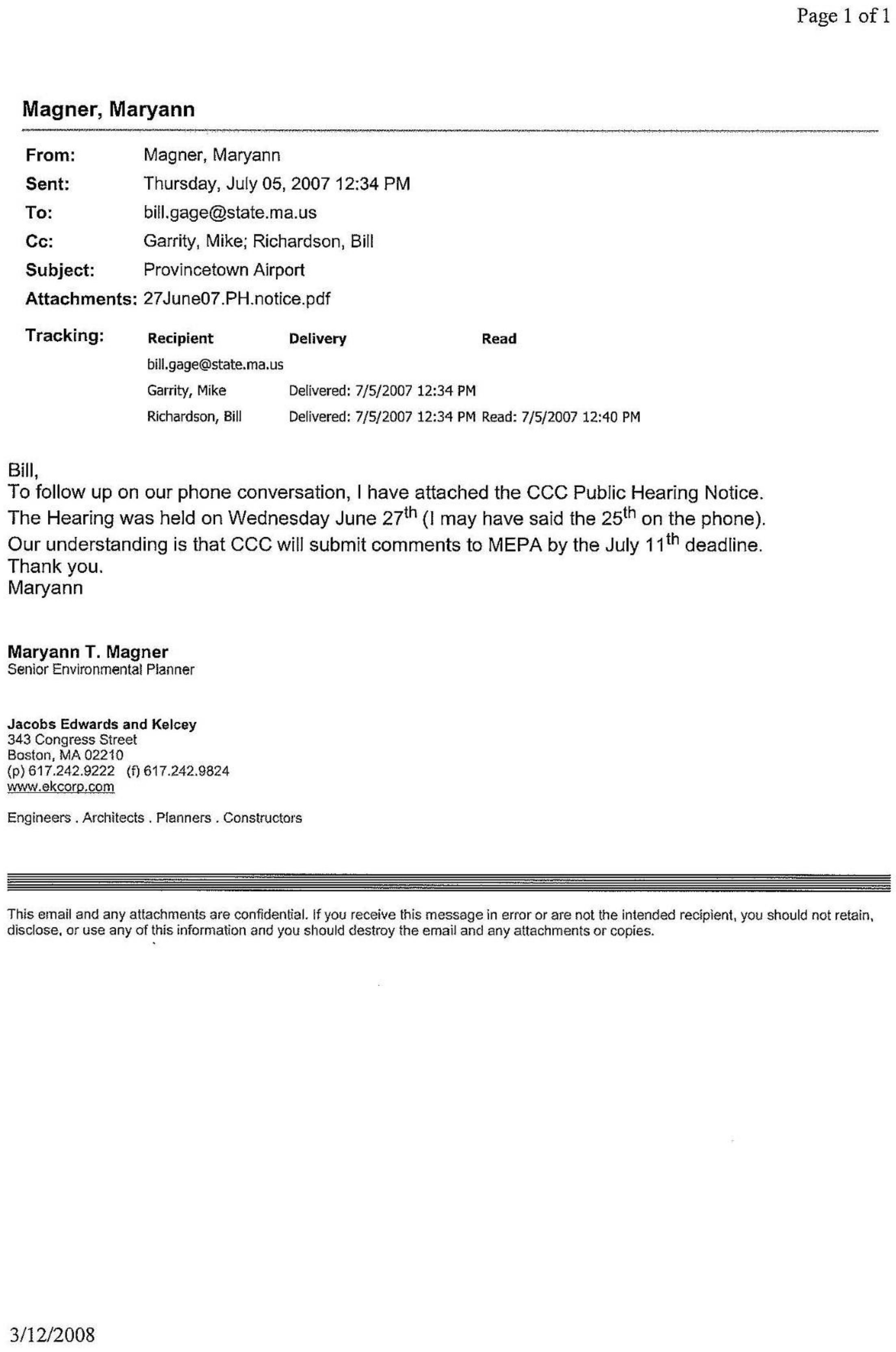
Vin

Vin Malkoski
MA Division of Marine Fisheries
838 South Rodney French Blvd
New Bedford, MA 02744
508-910-6318 Fax: 508-910-6342

MarineFisheries
A Commonwealth of Massachusetts Agency

7/6/2007

No response necessary.



Magner, Maryann

From: Magner, Maryann
Sent: Thursday, July 05, 2007 12:34 PM
To: bill.gage@state.ma.us
Cc: Garrity, Mike; Richardson, Bill
Subject: Provincetown Airport
Attachments: 27June07.PH.notice.pdf

Tracking:

Recipient	Delivery	Read
bill.gage@state.ma.us		
Garrity, Mike	Delivered: 7/5/2007 12:34 PM	
Richardson, Bill	Delivered: 7/5/2007 12:34 PM	Read: 7/5/2007 12:40 PM

Bill,
To follow up on our phone conversation, I have attached the CCC Public Hearing Notice.
The Hearing was held on Wednesday June 27th (I may have said the 25th on the phone).
Our understanding is that CCC will submit comments to MEPA by the July 11th deadline.
Thank you.
Maryann

Maryann T. Magner
Senior Environmental Planner

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www.ekcorp.com

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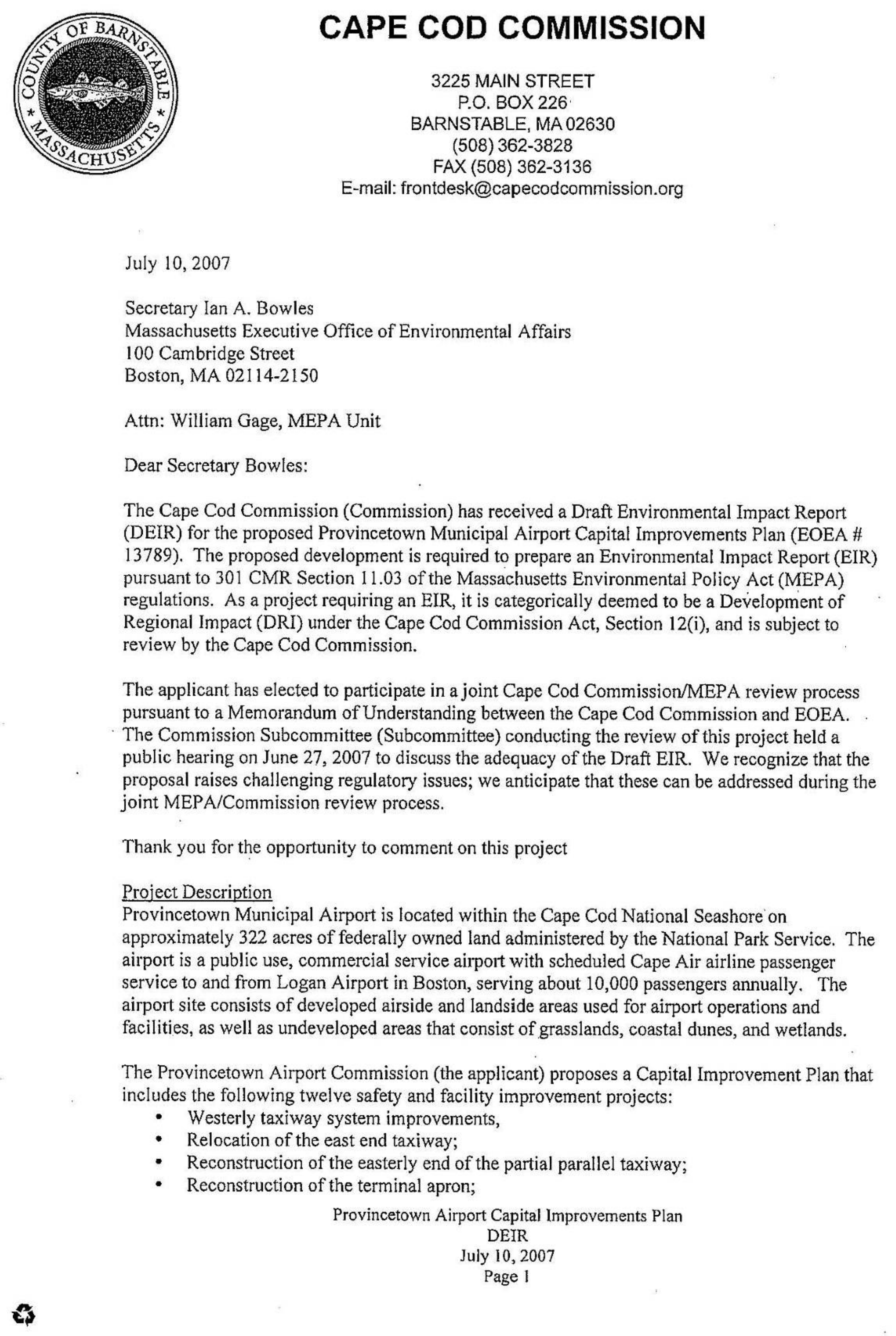
This email and any attachments are confidential. If you receive this message in error or are not the intended recipient, you should not retain, disclose, or use any of this information and you should destroy the email and any attachments or copies.

3/12/2008

No response necessary, as this is a procedural email concerning the public hearing date.



CAPE COD COMMISSION

3225 MAIN STREET
P.O. BOX 226
BARNSTABLE, MA 02630
(508) 362-3828
FAX (508) 362-3136
E-mail: frontdesk@capecodcommission.org

July 10, 2007

Secretary Ian A. Bowles
Massachusetts Executive Office of Environmental Affairs
100 Cambridge Street
Boston, MA 02114-2150

Attn: William Gage, MEPA Unit

Dear Secretary Bowles:

The Cape Cod Commission (Commission) has received a Draft Environmental Impact Report (DEIR) for the proposed Provincetown Municipal Airport Capital Improvements Plan (EOEA # 13789). The proposed development is required to prepare an Environmental Impact Report (EIR) pursuant to 301 CMR Section 11.03 of the Massachusetts Environmental Policy Act (MEPA) regulations. As a project requiring an EIR, it is categorically deemed to be a Development of Regional Impact (DRI) under the Cape Cod Commission Act, Section 12(i), and is subject to review by the Cape Cod Commission.

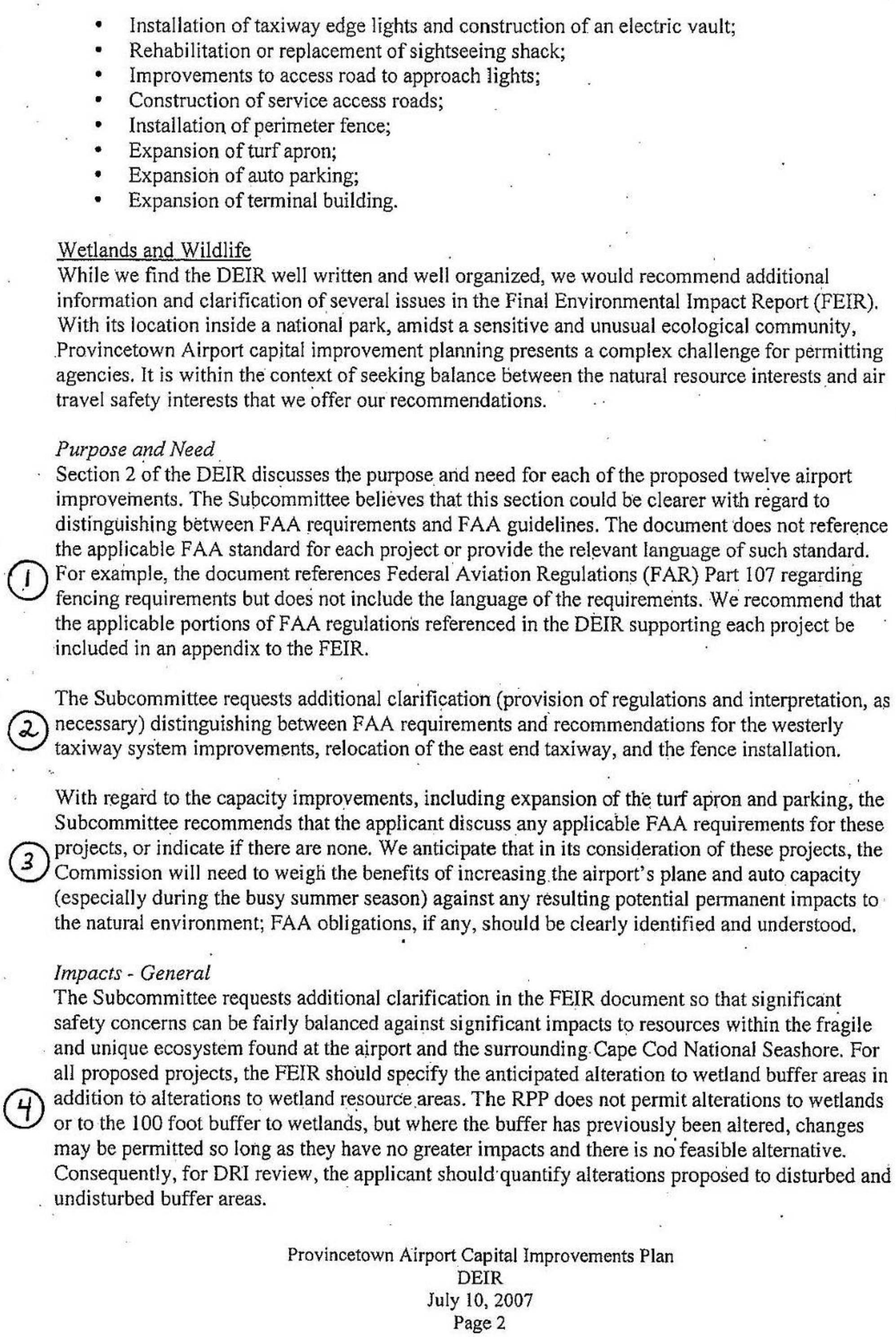
The applicant has elected to participate in a joint Cape Cod Commission/MEPA review process pursuant to a Memorandum of Understanding between the Cape Cod Commission and EOEA. The Commission Subcommittee (Subcommittee) conducting the review of this project held a public hearing on June 27, 2007 to discuss the adequacy of the Draft EIR. We recognize that the proposal raises challenging regulatory issues; we anticipate that these can be addressed during the joint MEPA/Commission review process.

Thank you for the opportunity to comment on this project

Project Description
Provincetown Municipal Airport is located within the Cape Cod National Seashore on approximately 322 acres of federally owned land administered by the National Park Service. The airport is a public use, commercial service airport with scheduled Cape Air airline passenger service to and from Logan Airport in Boston, serving about 10,000 passengers annually. The airport site consists of developed airside and landside areas used for airport operations and facilities, as well as undeveloped areas that consist of grasslands, coastal dunes, and wetlands.

The Provincetown Airport Commission (the applicant) proposes a Capital Improvement Plan that includes the following twelve safety and facility improvement projects:

- Westerly taxiway system improvements,
- Relocation of the east end taxiway;
- Reconstruction of the easterly end of the partial parallel taxiway;
- Reconstruction of the terminal apron;



- Installation of taxiway edge lights and construction of an electric vault;
- Rehabilitation or replacement of sightseeing shack;
- Improvements to access road to approach lights;
- Construction of service access roads;
- Installation of perimeter fence;
- Expansion of turf apron;
- Expansion of auto parking;
- Expansion of terminal building.

Wetlands and Wildlife

While we find the DEIR well written and well organized, we would recommend additional information and clarification of several issues in the Final Environmental Impact Report (FEIR). With its location inside a national park, amidst a sensitive and unusual ecological community, Provincetown Airport capital improvement planning presents a complex challenge for permitting agencies. It is within the context of seeking balance between the natural resource interests and air travel safety interests that we offer our recommendations.

Purpose and Need

① Section 2 of the DEIR discusses the purpose and need for each of the proposed twelve airport improvements. The Subcommittee believes that this section could be clearer with regard to distinguishing between FAA requirements and FAA guidelines. The document does not reference the applicable FAA standard for each project or provide the relevant language of such standard. For example, the document references Federal Aviation Regulations (FAR) Part 107 regarding fencing requirements but does not include the language of the requirements. We recommend that the applicable portions of FAA regulations referenced in the DEIR supporting each project be included in an appendix to the FEIR.

② The Subcommittee requests additional clarification (provision of regulations and interpretation, as necessary) distinguishing between FAA requirements and recommendations for the westerly taxiway system improvements, relocation of the east end taxiway, and the fence installation.

③ With regard to the capacity improvements, including expansion of the turf apron and parking, the Subcommittee recommends that the applicant discuss any applicable FAA requirements for these projects, or indicate if there are none. We anticipate that in its consideration of these projects, the Commission will need to weigh the benefits of increasing the airport's plane and auto capacity (especially during the busy summer season) against any resulting potential permanent impacts to the natural environment; FAA obligations, if any, should be clearly identified and understood.

Impacts - General

④ The Subcommittee requests additional clarification in the FEIR document so that significant safety concerns can be fairly balanced against significant impacts to resources within the fragile and unique ecosystem found at the airport and the surrounding Cape Cod National Seashore. For all proposed projects, the FEIR should specify the anticipated alteration to wetland buffer areas in addition to alterations to wetland resource areas. The RPP does not permit alterations to wetlands or to the 100 foot buffer to wetlands, but where the buffer has previously been altered, changes may be permitted so long as they have no greater impacts and there is no feasible alternative. Consequently, for DRI review, the applicant should quantify alterations proposed to disturbed and undisturbed buffer areas.

⑤ Impacts to rare species or their habitat are not permitted by the RPP, and consequently the projects' preferred alternatives should be designed to eliminate or minimize impacts to rare species. The FEIR should address concerns that the Natural Heritage and Endangered Species Program identifies regarding impacts from each of the proposed projects. Mitigation of unavoidable impacts should be detailed in the FEIR.

Impacts – Adequacy of Alternatives Analysis for Individual Projects
Westerly Taxiway System

⑥ The DEIR does not provide analysis of the impacts to wetlands or buffers from taxiway reconstruction within the existing footprint to the Runway 7 end because the consultant determined that this alternative does not comply with FAA design standards. As discussed above, the FAA requirement for the realignment and taxiway design standards should be provided to support this determination. In addition, the area of impact should be provided for comparison to the preferred alternative. The preferred alternative would impact 0.68 acres of wetlands and an undetermined amount of wetland buffer.

Relocating the East End Taxiway

⑦ As noted previously, establishing the need for the taxiway relocation is essential to the permitting process. Have there been changes in FAA regulations that require this change, as it was not proposed during previous permitting of the runway safety areas (*Provincetown Airport-Short Term Improvements DRI decision, TR93007, April 13, 2000 as amended.*) The impacts to wetlands at this location are more than half an acre and an undetermined amount of wetland buffer.

Improve Access Road to MALSF Approach lights

⑧ While the area of proposed wetland alteration at this location is relatively small, 960 s.f., it contributes to the total contemplated wetland impacts and the gradual alteration of the wetlands at the airport. The FEIR should address whether an ATV/golf maintenance cart may be used at this location in lieu of a truck, thereby avoiding the need for a turn-around.

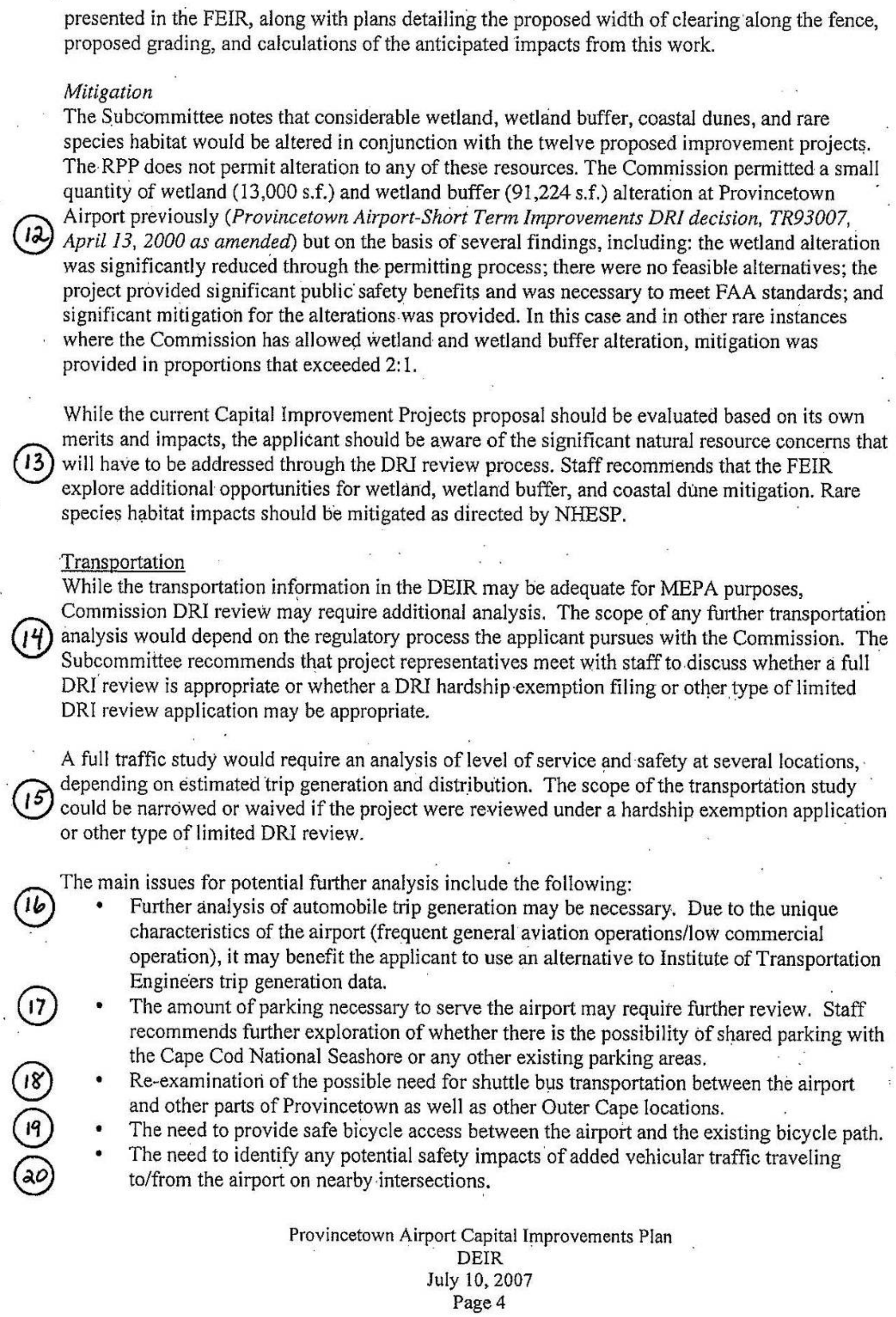
Service Roads to LES and AWOS

⑨ Both of the proposed access roads would permanently alter small amounts of wetlands and would result in pavement within wetland buffer areas. The FEIR should address whether the area of pavement could be reduced to the minimum required by FAA for taxiways and runways (300 ft, according to the DEIR), and whether an ATV/golf cart could be used to service these facilities, thereby further reducing the area of impact.

Perimeter Fence

⑩ The Subcommittee agrees with the assessment in the DEIR that of the five fencing alternatives examined, alternatives 4 and 5 are more feasible than alternatives 2 and 3 as they minimize impacts to wetlands and other habitat. As stated above, establishing the need for the fence and distinguishing between safety and security issues is essential to the permitting process. The DEIR states that with alternatives 4 and 5, clearing around sections of fence would be reduced to 4 feet in width. Could the objectives for installing the fence be addressed without the cleared travel ways, or could all proposed travel ways be reduced in width by designing them for ATV/golf cart use?

⑪ As there appear to be benefits and impacts from both alternatives 4 and 5, the total impacts to wetlands, wetland buffers, coastal dune, rare species habitat, etc. for both alternatives should be



presented in the FEIR, along with plans detailing the proposed width of clearing along the fence, proposed grading, and calculations of the anticipated impacts from this work.

Mitigation

⑫ The Subcommittee notes that considerable wetland, wetland buffer, coastal dunes, and rare species habitat would be altered in conjunction with the twelve proposed improvement projects. The RPP does not permit alteration to any of these resources. The Commission permitted a small quantity of wetland (13,000 s.f.) and wetland buffer (91,224 s.f.) alteration at Provincetown Airport previously (*Provincetown Airport-Short Term Improvements DRI decision, TR93007, April 13, 2000 as amended*) but on the basis of several findings, including: the wetland alteration was significantly reduced through the permitting process; there were no feasible alternatives; the project provided significant public safety benefits and was necessary to meet FAA standards; and significant mitigation for the alterations was provided. In this case and in other rare instances where the Commission has allowed wetland and wetland buffer alteration, mitigation was provided in proportions that exceeded 2:1.

⑬ While the current Capital Improvement Projects proposal should be evaluated based on its own merits and impacts, the applicant should be aware of the significant natural resource concerns that will have to be addressed through the DRI review process. Staff recommends that the FEIR explore additional opportunities for wetland, wetland buffer, and coastal dune mitigation. Rare species habitat impacts should be mitigated as directed by NHESP.

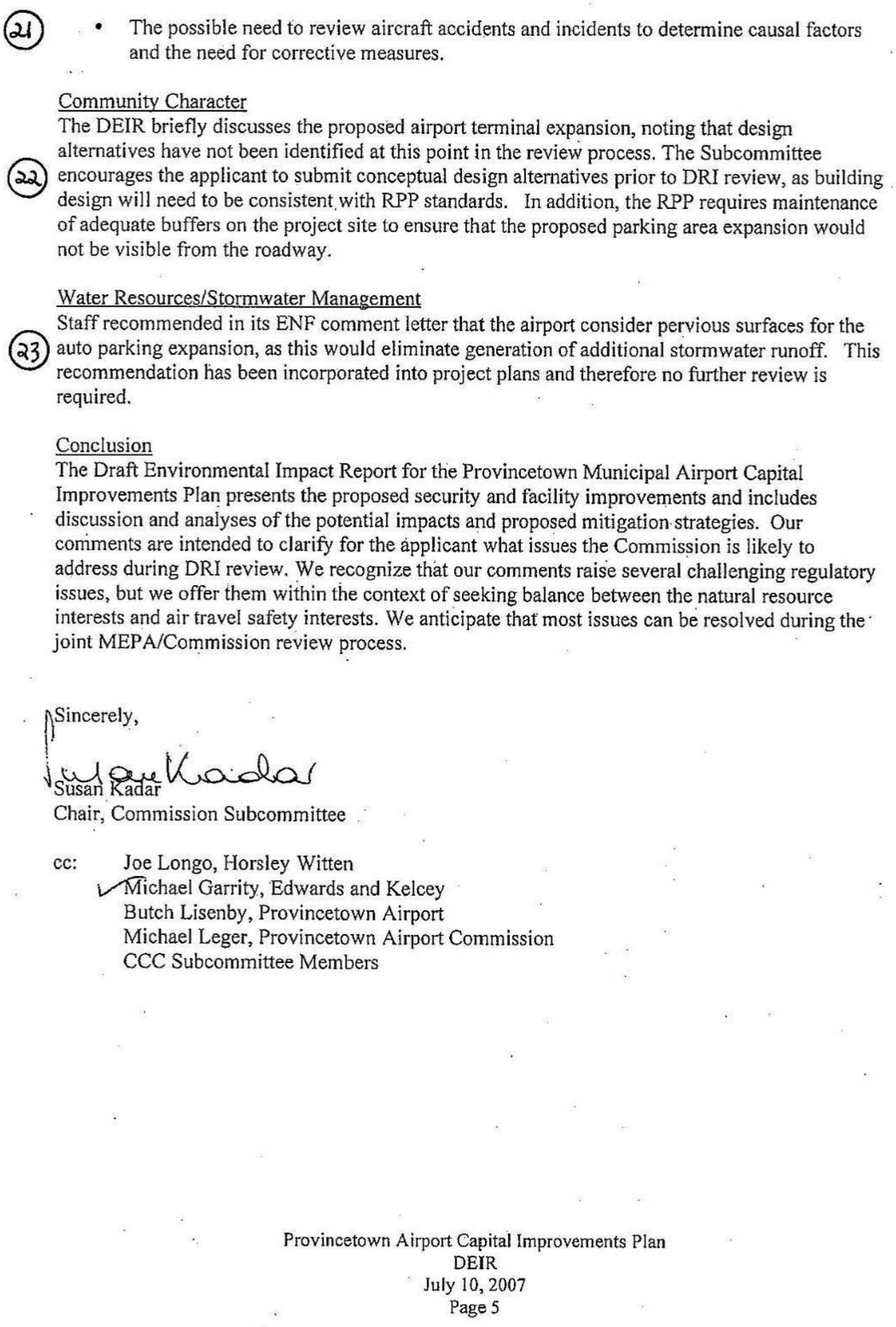
Transportation

⑭ While the transportation information in the DEIR may be adequate for MEPA purposes, Commission DRI review may require additional analysis. The scope of any further transportation analysis would depend on the regulatory process the applicant pursues with the Commission. The Subcommittee recommends that project representatives meet with staff to discuss whether a full DRI review is appropriate or whether a DRI hardship exemption filing or other type of limited DRI review application may be appropriate.

⑮ A full traffic study would require an analysis of level of service and safety at several locations, depending on estimated trip generation and distribution. The scope of the transportation study could be narrowed or waived if the project were reviewed under a hardship exemption application or other type of limited DRI review.

The main issues for potential further analysis include the following:

- ⑯ Further analysis of automobile trip generation may be necessary. Due to the unique characteristics of the airport (frequent general aviation operations/low commercial operation), it may benefit the applicant to use an alternative to Institute of Transportation Engineers trip generation data.
- ⑰ The amount of parking necessary to serve the airport may require further review. Staff recommends further exploration of whether there is the possibility of shared parking with the Cape Cod National Seashore or any other existing parking areas.
- ⑱ Re-examination of the possible need for shuttle bus transportation between the airport and other parts of Provincetown as well as other Outer Cape locations.
- ⑲ The need to provide safe bicycle access between the airport and the existing bicycle path.
- ⑳ The need to identify any potential safety impacts of added vehicular traffic traveling to/from the airport on nearby intersections.



㉑
- The possible need to review aircraft accidents and incidents to determine causal factors and the need for corrective measures.

Community Character

㉒ The DEIR briefly discusses the proposed airport terminal expansion, noting that design alternatives have not been identified at this point in the review process. The Subcommittee encourages the applicant to submit conceptual design alternatives prior to DRI review, as building design will need to be consistent with RPP standards. In addition, the RPP requires maintenance of adequate buffers on the project site to ensure that the proposed parking area expansion would not be visible from the roadway.

Water Resources/Stormwater Management

㉓ Staff recommended in its ENF comment letter that the airport consider pervious surfaces for the auto parking expansion, as this would eliminate generation of additional stormwater runoff. This recommendation has been incorporated into project plans and therefore no further review is required.

Conclusion

The Draft Environmental Impact Report for the Provincetown Municipal Airport Capital Improvements Plan presents the proposed security and facility improvements and includes discussion and analyses of the potential impacts and proposed mitigation strategies. Our comments are intended to clarify for the applicant what issues the Commission is likely to address during DRI review. We recognize that our comments raise several challenging regulatory issues, but we offer them within the context of seeking balance between the natural resource interests and air travel safety interests. We anticipate that most issues can be resolved during the joint MEPA/Commission review process.

Sincerely,

Susan Kadar
Chair, Commission Subcommittee

cc: Joe Longo, Horsley Witten
✓ Michael Garrity, Edwards and Kelcey
Butch Lisenby, Provincetown Airport
Michael Leger, Provincetown Airport Commission
CCC Subcommittee Members

Response to comments in letter from Cape Cod Commission, (CCC), July 10, 2007

1. Section 2, Purpose and Need, has been revised and expanded to provide additional information on FAA, TSA and MassDOT Aeronautics regulations. The FAA publishes documents known as Advisory Circulars (AC) and Orders which while not regulations provide accepted operational safety design standards to meet responsibilities pursuant to the regulations. The use of these standards is mandatory for airport projects receiving Federal grant-in-aid assistance. AIP funded projects are required to comply with certain FAA Advisory Circulars (AC).

   The specific design standards that apply to each project are identified in Section 2.1. Table 2.1 lists all the regulations that pertain to the projects. The applicable portions of the referenced documents are provided in Appendix 6. Table 2.2 summarizes which elements have been proposed in response to safety and security requirements and which are capacity projects.

2. Please see response to comment #1.

3. The need for additional aircraft and auto parking was identified in the 2005 Master Plan. Design alternatives have been developed that avoid wetland impacts associated with these project elements, as discussed in Sections 3, 5 and 6.

4. Preferred alternatives have been identified that will avoid and minimize impacts to wetland resource areas and associated buffer zones to the fullest extent practicable as discussed further in Sections 3, 5 and 6. Certain CIP projects that were developed to address FAA safety standards will result in unavoidable impacts to wetlands. These projects have an overriding public security/safety interest and include: safety/security fence, westerly taxiway system improvements, relocation of the east end taxiway, improvement to the access road to the MALSF approach lights, and the service access roads to the LES and to the AWOS. Mitigation measures were designed to address the Wetlands Protection Act and other mitigation guidelines to the extent practical. Four areas have been designated for restoration and mitigation efforts. Wetland restoration, coastal dune creation, and cultural grassland creation will all occur in the restoration areas. On-site wetland mitigation at a 1:1 for IVW and at a 2:1 restoration rate is proposed for BVW. Table 5-3 summarizes areas to be impacted as well as the area to be mitigated.

   Several of the CIP projects will result in alterations within the 100-foot buffer zone of one or more wetland areas. In general, the existing buffer zone composition consists of one or more of the following: unaltered coastal dune, cultural/managed grasslands, impervious surfaces (buildings, pavement), or in some cases, where wetland areas are in close proximity to each other, the buffer zone to one wetland may encompass one or more of the adjacent wetlands.

5. State-listed rare species mapped by NHESP at the Airport include: the Eastern Box Turtle, the Vesper Sparrow, Broom Crowberry, and the Eastern Spadefoot Toad. As part of the review of the Draft EA/EIR, NHESP indicated that the proposed improvement projects might result in a “Take” of the Eastern Spadefoot Toad, and the Eastern Box Turtle if construction avoidance methods were not developed. The NHESP also indicated that, with certain construction conditions, a “Take” may be avoided for the Vesper Sparrow and the Eastern Spadefoot Toad. NHESP emphasized that the Airport should try to avoid a “Take,” if possible.

   Since the NPC/Draft EIR/EA, the Project Team has met with NHESP twice (see minutes provided in Section 10.1) to discuss ways to minimize impacts to all listed species. Additional design alternatives, construction phase measures, and operational mitigation measures have been developed to avoid a “Take” of any listed species at the Airport as a result of the CIP projects. This FEIR/EA reflects those measures. A MESA Project Review Checklist will be submitted to NHESP for their review and determination.

A new fence concept has been developed to minimize habitat fragmentation and habitat degradation of the four state-listed species found at the Airport. The fence alignment has been developed to avoid the prime Spadefoot habitat. Gaps along the fence bottom are proposed, so as to avoid a “Take” of the Eastern Box Turtle as discussed further in Sections 5 and 6. Construction phase and operational mitigation measures have also been developed.

Mitigation efforts involving habitat restoration, creation, or enhancement for the listed species are also proposed to provide a long term net benefit to the species. Construction will also be timed to avoid breeding times or other periods of peak activity if possible. Pre-construction turtle sweeps and/or a bird census will be conducted.

The Vegetation Management Plan is discussed in Section 7.4.

6. An analysis of the alternative that would reconstruct the existing TW footprint with a standard right angle within the existing footprint is included in Section 3. This alternative would have unavoidable impacts to approximately 935 SF of isolated wetland in Wetland I, and approximately 12, 730 SF of BVW in Wetland C/J/FK.

7. The relocation of the East End TW was not included in the previous permitting of the RW safety areas because it was not included in the design scope of work for the safety areas. The FAA design standard regarding the location of connector TWs has not changed. At the time of the previous project, operational issues relative to the Terminal Apron and the wetland permitting associated with the relocation of the East End TW were beyond the scope and schedule of work.

8. The alternative that would have FAA personnel transfer their equipment to an all terrain utility vehicle (such as a golf cart) small enough to eliminate the need to back down the access road has been evaluated in Section 3.

   The Utility Vehicle alternative has been deemed unfeasible in Section 3 because FAA personnel need access to all equipment in their vehicles during all weather conditions and cannot feasibly transfer all the equipment to a small utility vehicle. Since the runway needs to be shut down for some inspection or maintenance procedures, the vehicle, with all of the necessary equipment, needs to be close to the navigational facilities to minimize the time that the runway is closed.

9. The access road to the localizer shelter will not impact wetlands. The pavement for all the proposed access roads has been reduced to the minimum required by FAA, a length of 300 feet. Please see response to comment #8 regarding the feasibility of a golf cart.

10. A new alternative has been developed for the fence which eliminates the patrol road. Additional information is provided in Section 3, 5 and 6. Section 2 discusses the safety and security issues addressed by the fence.

11. Concept 6 has been developed to respond to concerns expressed by NPS and NHESP during coordination meetings relative to prime breeding habitat for the Eastern Spadefoot Toad, a State listed species which is also granted federal protection by NPS. Impacts to primary Eastern Spadefoot Toad breeding habitat and to movement of the Eastern Box Turtle have been minimized by revising the alignment and by providing gaps in the fence as shown in a detail on Figure 6.7 in Section 6.

12. On-site wetland mitigation is proposed in areas where existing impervious surfaces will be removed. The draft wetland restoration plans have been developed to comply with several regulations and permit performance standards that relate to wetlands; including the Wetlands Protection Act, the Provincetown Wetland By-Law, Section 401 Water Quality Certification, Section 404 Army Corps of Engineers permit, and the CCC Regional Policy Plan (RPP). Restoration of wetlands is recognized by the CCC as appropriate mitigation for altered wetlands.

    Additional mitigation measures, such as creation of dune habitat, are proposed. Mitigation measures are also proposed for stormwater treatment for the auto parking area, and implementation of wetland enhancement through management of invasive species.

    As discussed in Section 5 and 6, several of the CIP projects will result in unavoidable alterations to freshwater wetlands (isolated and/or bordering). These impacts have been avoided and minimized to the extent practicable. The proposed onsite wetland restoration is shown on Figures 7.1 - 7.4 in Section 7. The proposed wetland restoration reflects a minimum on-site mitigation ratio of 2:1 for BVW impacts and 1:1 for IVW impacts for all the direct (permanent) impacts resulting from the CIP projects.

    Relocation of the West End TW and East End TW will result in alterations to isolated freshwater wetlands, presumed to be Isolated Land Subject to Flooding (ILSF). Flood storage capacity of ILSF on-site will not be altered. Construction of service access roads to the AWOS will also result in freshwater wetland alteration. The installation of the safety/security fence will also directly alter areas of isolated freshwater wetlands. Subsequent abandonment of the existing paved areas provides an opportunity for wetland restoration within the footprint of the formerly paved areas. On-site areas have been designated as restoration areas for mitigative efforts to compensate for impacts to isolated freshwater wetlands.

    Wetland Restoration Area A will be located near the northwestern corner of the abandoned West End TW and the Runway 7 End, adjacent to portions of Wetlands C/J/FK and contiguous with Wetland I as shown on Figures 7.1 and 7.3. Wetland Restoration Area B is located within the footprint of the existing East End TW, south of the terminal apron and contiguous with Wetland H, as shown on Figures 7.2 and 7.4. Wetland Restoration Area C is adjacent to wetland C/J/K at the end of Runway 7, as shown on Figures 7.1 and 7.3.

    These areas are highly suitable for wetland restoration because they are adjacent to existing wetlands and are close to elevations within existing wetlands. A total of six monitoring wells have been installed in and around areas designated for mitigation, in order to confirm proper hydrologic conditions that will support wetland restoration and creation. Plant species are listed in a Table 7.1 in Section 7.0, along with preliminary planting specifications. Furthermore, restoration of BVW has been increased to achieve a 2:1 on-site mitigation ratio. BVW will be impacted by improvements to the MALSF Access Road and construction of the fence. Restoration Area C is for BVW restoration.

13. The Airport will mitigate for impacts to rare species habitat through a combination of habitat restoration, design and construction phase measures. Specific measures, such as incorporating wildlife “tunnels” within sections of the proposed fence, and implementing strategic maintenance schedules are designed to minimize impacts to rare species habitat. Vegetation management will help to maintain natural habitat areas, such as Cultural Grassland, and will foster the stability and proliferation of Broom Crowberry. Vegetation management will also help to maintain adequate ground-nesting areas for the Vesper Sparrow.

Strategic timing of construction activities will also help to avoid direct and indirect impacts to rare species. Additionally, a field reconnaissance would be carried out just prior to construction activities to determine if Vesper Sparrows or other species are within the impact areas. The majority of the project impacts would occur within actively maintained portions of the Airport. To the extent practicable, construction will be timed to avoid peak activity for these species. Also, efforts to restore and re-create impacted natural resource areas (i.e., wetlands, coastal dune, and Cultural Grassland), may result in overall habitat enhancement. Net improvements in habitat quality may also be achieved through the proposed invasive species management, which will restore and maintain the natural, native vegetative communities.

14. A request for a Hardship Exemption will be submitted as discussed in Section 6.1

15. A meeting was held with CCC staff to discuss this issue. Minutes are provided in Appendix 7.

16. The traffic study has been revised and expanded. A traffic distribution map is provided in Figure 4 of the Traffic Operation Report in the Traffic Appendix. Present and Future (2024) Build and No Build conditions have been examined. Anticipated 2024 traffic volumes were based on Passenger Enplanement projections published in the Provincetown Airport 2005 Master Plan. The forecasted enplanement totals were applied to a trip rate which was empirically calculated based on the existing amount of vehicular traffic entering and exiting the site. This methodology was suggested by CCC and is similar to one used to generate vehicular trips associated with the Terminal project at the Barnstable Airport. The projected number of trips was then subtracted from the existing traffic, in order to arrive at the increased amount of trips estimated to be generated by the Provincetown Airport in the future. A memo provided with the Traffic Report explains in more detail how the land use codes and trip generation estimates have been generated.

17. Additional data collection was carried out during summer of 2008 regarding parking lot use and is provided in Appendix 4. Shared parking could be explored with staff of NPS, but the cost of a shuttle service between a NPS lot and the Airport would be prohibitive.

18. The Breeze shuttle is currently operating between downtown Provincetown and the Airport.

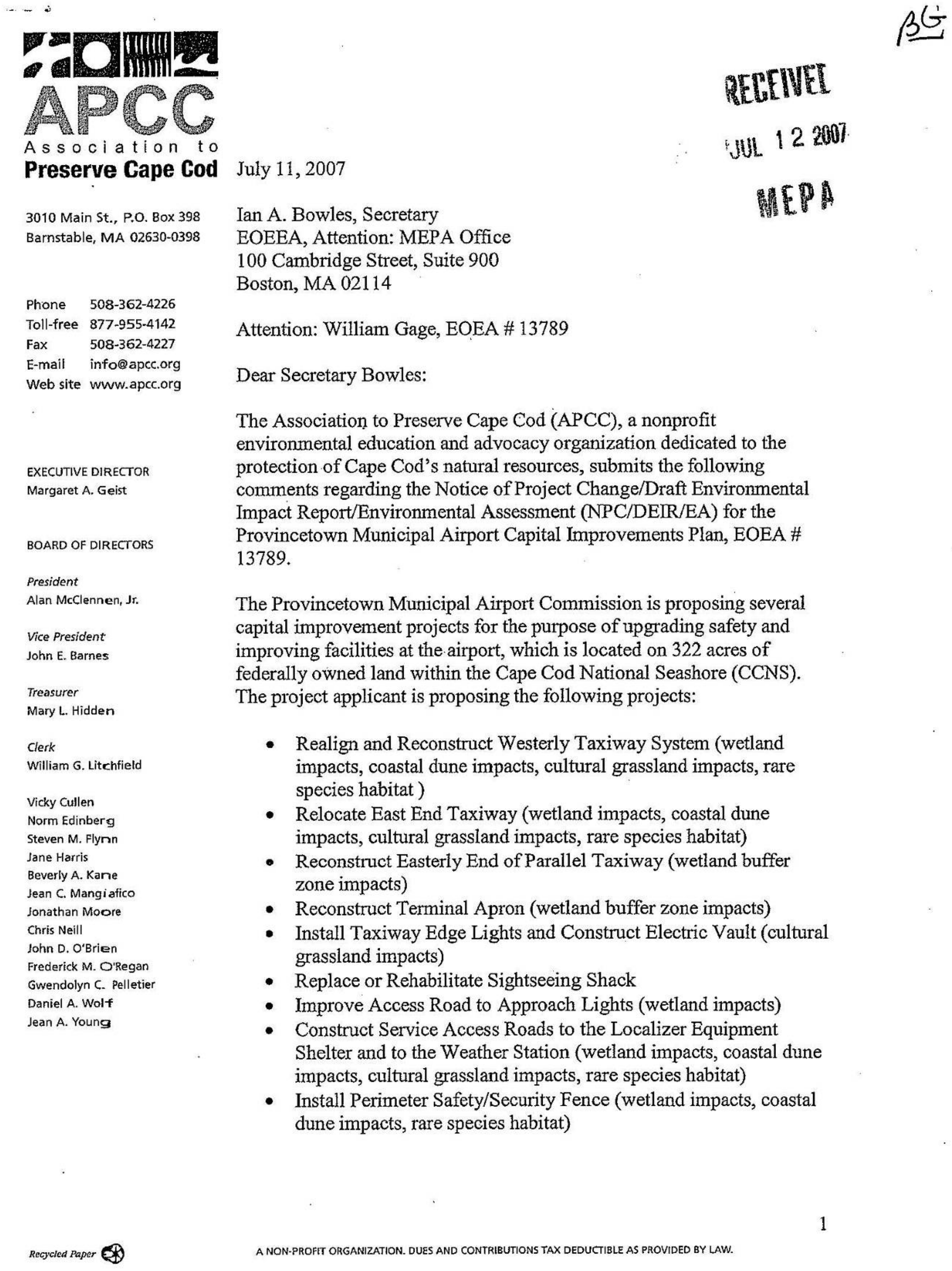
19. The existing bike path intersects with Airport Drive with stop signs for the bicyclists. Access for bikes to the Terminal is by means of the Airport Drive, following standard rules of the road. A bicycle rack is provided at the entrance of the Airport Terminal.

20. The traffic study has been revised and expanded. Utilizing the TMCs collected for this project, the Study Team conducted a level-of-service (LOS) analysis of the signalized intersection of Route 6 at Conwell Street and Race Point Road and the unsignalized intersection of Race Point Road and Airport Drive. Under all conditions (2007 Existing, 2024 No Build and 2024 Build), the Signalized Intersection of Route 6 at Conwell Street and Race Point Road currently operates at LOS A during the weekday morning peak hour and at LOS B during the weekday midday, evening and Saturday midday peak hours. Under all conditions, the critical movements (all movements from the Provincetown Airport driveway) at the unsignalized intersection of Race Point Road and Airport Drive operate at LOS A during the weekday morning, midday, and evening and Saturday midday peak hours.

21. Aircraft accidents or incidents are related to the weather conditions at the Airport and deer incursions. The proposed TW improvements and the perimeter fence will address these conditions.

22. The Terminal expansion will match the exterior design of the existing building. Conceptual design will be submitted to the CCC as part of the DRI submission. Landscaping is proposed for the parking lot so that the lot will not be visible from the roadway.

23. The parking spaces will be pervious gravel.



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July 11, 2007

Ian A. Bowles, Secretary
EOEEA, Attention: MEPA Office
100 Cambridge Street, Suite 900
Boston, MA 02114

Attention: William Gage, EOEA # 13789

Dear Secretary Bowles:

The Association to Preserve Cape Cod (APCC), a nonprofit environmental education and advocacy organization dedicated to the protection of Cape Cod's natural resources, submits the following comments regarding the Notice of Project Change/Draft Environmental Impact Report/Environmental Assessment (NPC/DEIR/EA) for the Provincetown Municipal Airport Capital Improvements Plan, EOEA # 13789.

The Provincetown Municipal Airport Commission is proposing several capital improvement projects for the purpose of upgrading safety and improving facilities at the airport, which is located on 322 acres of federally owned land within the Cape Cod National Seashore (CCNS). The project applicant is proposing the following projects:

- Realign and Reconstruct Westerly Taxiway System (wetland impacts, coastal dune impacts, cultural grassland impacts, rare species habitat)
- Relocate East End Taxiway (wetland impacts, coastal dune impacts, cultural grassland impacts, rare species habitat)
- Reconstruct Easterly End of Parallel Taxiway (wetland buffer zone impacts)
- Reconstruct Terminal Apron (wetland buffer zone impacts)
- Install Taxiway Edge Lights and Construct Electric Vault (cultural grassland impacts)
- Replace or Rehabilitate Sightseeing Shack
- Improve Access Road to Approach Lights (wetland impacts)
- Construct Service Access Roads to the Localizer Equipment Shelter and to the Weather Station (wetland impacts, coastal dune impacts, cultural grassland impacts, rare species habitat)
- Install Perimeter Safety/Security Fence (wetland impacts, coastal dune impacts, rare species habitat)

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- Expand Turf Apron (wetland impacts, cultural grassland impacts, rare species habitat)
- Expand Auto Parking (wetland impacts, coastal dune impacts, rare species habitat)
- Expand Terminal Building (possible wetland impacts)

In 2006, APCC submitted written comments following the release of the Environmental Notification Form (ENF) for the project. In those comments, APCC acknowledged the need to address issues that affect the safety and security of airport operations. However, APCC also expressed its concern over likely significant impacts the projects would have on wetlands, coastal dunes and rare species habitat located at the airport, as well as the project's visual impacts to the CCNS.

In its written comments on the ENF, APCC called for the project applicant to study alternatives that would reduce the potential for impacts to the environment, and to provide detailed information about proposed mitigation for any remaining environmental impacts. The DEIR does provide significantly more information than the ENF in regard to alternatives analysis and possible mitigation, but APCC still worries that impacts to wetlands, coastal dunes and rare species will remain considerable, and that mitigation, which relies largely on replication or restoration of wetlands and dunes, may not be sufficient given the size and habitat value of the impacted area.

Wetland Impacts and Proposed Mitigation

According to the DEIR, the combined airport projects will impact approximately 64,000 square feet of wetlands. This figure does not include wetland impacts as a result of installing a perimeter safety/security fence around the airport, as the exact location of the fence has yet to be determined.

The DEIR has identified the extensive wetlands within the project area as mostly isolated freshwater wetlands, consisting of seasonally-flooded shrub/scrub coastal interdunal wetland marsh, along with areas of interdunal forested wetland swales where pitch pine is the indicator species. A portion of bordering vegetated wetlands associated with the tidally influenced Hatches Harbor wetland will also be impacted by the project.

Although the DEIR provides approximate square footage of wetland that will be impacted by each of the proposed projects, APCC could not find any information that reported what *percentage* of an individual wetland area will be impacted for each project. For example, the Westerly Taxiway System realignment and reconstruction project ① would impact 33,225 sq ft of wetland in what is identified as Wetland Area I. But, the total square footage of wetland in Wetland Area I is not provided, and therefore the percentage of Wetland Area I that will be impacted is unknown. This information is valuable in helping determine how significant a specific project impact will be on any particular wetland area. The FEIR should provide more information on the anticipated severity of each project impact on a wetland system.

② Also, in the case of the Westerly Taxiway System project, APCC notes that a section of Wetland Area I will be bisected from the rest of the wetland as a result of the proposed project, as shown in Figure 3.1 in the DEIR. The DEIR does not provide any information about if, or how, this fragmentation of the wetland will affect the hydrology, habitat value or other functional aspects of either the smaller isolated piece or the larger piece. It appears from the DEIR that other wetland areas are similarly fragmented by other proposed airport projects. The FEIR should address how projects occurring in wetland areas may indirectly impact those wetlands.

③ To mitigate wetland impacts, the applicant proposes to restore and/or replicate additional wetlands in areas where existing paved surfaces are to be removed. In the MEPA Certificate for the ENF, the Secretary directed the applicant to provide a detailed wetlands replication plan in the DEIR that must include "replication location(s) delineated on plans, elevations, typical cross sections, test pits or soil boring logs, groundwater elevations, the hydrology of areas to be altered and replicated, list of wetlands plant species of areas to be altered and the proposed wetland replication species, planned construction sequence, and a discussion of the required performance standards and monitoring." APCC could not find information in the DEIR regarding elevations, cross sections, test pits/soil boring logs, groundwater elevations, and the hydrology of altered areas. This specific information should be included in the FEIR.

④ The project applicant states that wetland mitigation will conform to Massachusetts DEP and U.S. Army Corps of Engineers wetland mitigation guidelines, as well state and local wetlands regulations. Despite these assurances, APCC remains concerned that the proposed mitigation will be insufficient to address the impacts to such a high value resource area.

⑤ Both the Environmental Protection Agency and the Massachusetts DEP report that historically many wetland replication efforts are not successful. According to the Buzzards Bay National Estuary Program Web site, "Many scientists and managers are concerned with the use of wetlands replication as a routine management tool for two reasons. First, wetlands replication projects have a high failure rate. In New England it has been estimated that 50% of all replication efforts fail because of inadequate design or maintenance (Ed Reiner, EPA, personal communication). Second, many functions performed by natural wetlands may not be performed by artificial or replicated wetlands. Although it may be possible to replicate the flood control, sediment trapping, and waterfowl values of some wetlands, scientists have identified at least 75 complex ecological relationships among soils, hydrology, water quality, vegetation, and wildlife, many of which take centuries to develop."

The DEIR states that the proposed wetland mitigation represents an approximately 1:1 restoration. If the project is approved and the proposed wetland restoration and replication is permitted as mitigation, a 1:1 restoration should be required at a minimum.

⑥ Impacted square footage should be carefully calculated against square footage of areas to be restored or replicated, and this exact calculation should be included in the Final Environmental Impact Report (FEIR).

⑦ The DEIR also indicates that additional, off-site wetland restoration is a possibility, if deemed necessary. Any off-site wetland mitigation should be identified in the FEIR.

⑧ Any wetlands replicated or restored on-site or off-site as project mitigation should match the environmental characteristics of impacted wetlands in terms of functionality and plant communities. For example, a diverse shrub/scrub interdunal wetland plant community should not be replaced by a replicated wetland that is largely dominated by cattail. The FEIR should provide specific information on how this should be accomplished, and the Cape Cod Commission Development of Regional Impact (DRI) process should further refine and guide this mitigation procedure, if it is determined to be acceptable.

Wetland Impacts from Parking Lot Expansion

⑨ APCC believes that alternatives for the proposed expanded auto parking lot should be studied further in the FEIR. The project applicant presented several parking lot configurations in the DEIR, and identified Option 1 as the preferred alternative. As proposed, Option 1 would fill in or otherwise permanently impact 4,650 sq ft of isolated scrub-shrub/forested wetland. Option 1 would increase parking spaces from 64 spaces for visitors and 20 for employees that currently exist to a total of 119 spaces. The DEIR states that these additional spaces are needed for future airport demand in the peak use season. APCC recommends that the applicant continue to study alternative configurations that would avoid this impact, and also to pursue additional parking demand reduction measures that could reduce the total number of spaces needed.

Coastal Dune Impacts and Proposed Mitigation

⑩ According to the DEIR, combined airport projects would impact approximately 42,200 sq ft of coastal dune. As with wetland impacts from the project, this number does not include coastal dune impacts as a result of the proposed perimeter fence installation.

⑪ The DEIR proposes to mitigate coastal dune impacts by creating new coastal dunes elsewhere in the project area where pavement is to be removed, and through an invasive plant species management program within coastal dune habitat. Newly created dunes would be planted with native vegetation. Total new dune creation proposed (excluding perimeter fence mitigation) is approximately 32,000 sq ft of new dune for the 42,000 sq ft impacted. The FEIR should explain how the applicant proposes to mitigate impacts to the remaining 10,000 sq ft of impacted coastal dune.

⑫ APCC would like to see determinations by appropriate state environmental agencies and the Cape Cod Commission as to whether creating new dunes is acceptable mitigation for permanent impacts to naturally occurring coastal dunes in such an environmentally sensitive area. If this is acceptable mitigation, the FEIR should provide detailed information about the expected survival rate of the plantings and contingency plans for addressing any created dune habitat that fails to become established.

⑬ Regarding the invasive species management plan proposed in the DEIR, APCC supports invasive species control programs and looks forward to reviewing additional information about this mitigation proposal as the project review process moves forward.

Rare Species Habitat Impacts
The Massachusetts Natural Heritage and Endangered Species Program has identified the entire airport area as Priority Habitat of Rare Species and Estimated Habitat of Rare Wildlife and Certified Vernal Pools. Specifically, the airport contains habitat for the eastern box turtle, eastern spadefoot toad, vesper sparrow and broom crowberry. The DEIR states that proposed airport projects will permanently or temporarily impact habitat for all four species.

⑭ A population of broom crowberry was identified during field surveys conducted by the project applicant, according to the DEIR. The applicant should reconfirm in the FEIR that the broom crowberry population will not be impacted by the proposed projects.

⑮ Nearly all of the area encompassing the airport has been designated as habitat suitable for eastern box turtle. While no box turtles were observed in field surveys of the area, APCC looks to the FEIR to provide details on proposed methods to ensure that there is no "taking" of the eastern box turtle as a result of the airport improvement projects.

⑯ The eastern spadefoot toad is known to inhabit the dune country found in this area of the CCNS. The Outer Cape Cod region, which includes Provincetown, holds the greatest concentration of spadefoot toads in the northeast. Individuals only emerge from underground burrows on certain rainy nights to feed and reproduce, and are therefore not easily observed during most of the year. According to the DEIR, various attempts were made to locate the presence of spadefoot toads during likely heavy rain events and in temporary pools in dune areas. However, the DEIR also indicates that during the time period of the surveys, the region was experiencing lower than average rainfall, which may be a factor in the absence of spadefoot toad sightings. APCC sees the need for further field studies to determine whether eastern spadefoot toads utilize the project area.

⑰ The cultural grassland habitat consisting of the mown areas around the airfield has been identified as potential habitat for the state-listed vesper sparrow. The DEIR states that there will be no net loss of cultural grassland habitat, due to mitigation that entails creation of new grassland or restoration of other areas, although total square footage of area impacted and area to be restored or created were not evident in the DEIR. This information should be provided in the FEIR.

⑱ No vesper sparrows were found during initial field surveys, according to the DEIR. The FEIR should confirm that an additional survey will be conducted prior to any project activity that impacts vesper sparrow habitat in order to verify that no sparrows are present.

Terminal Building
More information on a preferred alternative for expanding the terminal building should be provided in the FEIR. A preferred alternative was not identified in the DEIR, but the DEIR did discuss two general options. The first would maintain the same building ⑲ footprint but increase the height from one story to two stories, which would create visual impacts in the CCNS. The second option involves expanding the building horizontally, which would impact approximately 560 sq ft of isolated wetland. Assuming that additional space is validated in the course of the project review process, information on a preferred alternative for expanding the terminal should also include detailed analysis of how wetland impacts can be minimized or avoided.

Safety/Security Fence
A fence encircling the area of airport activity has been proposed as one of the airport projects. The purpose of the fence is to maintain airport safety and security by keeping humans and large animals such as deer and coyote from encroaching on the airfield and other secure areas.

In the ENF, the project applicant proposed that eight-foot high black chain link fence topped with barbed wire run the entire circumference of the airport lease area. According to the ENF, the fence would have impacted approximately 62,000 sq ft of bordering vegetated wetland, 6,000 sq ft of isolated wetland, and 418,000 sq ft of coastal dune. It would also impact eastern box turtle and eastern spadefoot toad habitats.

In the DEIR, the applicant studied several alternatives for the placement of the perimeter fence in an effort to reduce the significant environmental impacts reported in the ENF. APCC is encouraged by the effort of the applicant thus far in analyzing alternatives with fewer environmental impacts. Of the concepts studied in the DEIR, two have been identified as warranting further study as potential preferred alternatives. Still, one of those concepts would impact 43,620 sq ft of bordering vegetated wetland and 5,720 sq ft of isolated wetlands, while the second possible concept would impact 44,840 sq ft of bordering vegetated wetland and 21,425 sq ft of isolated wetland. The DEIR does not identify the square footage of coastal dune that would be impacted, although it is presumed to be less than stated in the ENF due to reductions in fence circumference. Even so, the fence likely remains the single largest source of impacts to coastal dunes of all the projects proposed, and both concepts would still impact wetlands and rare species habitat.

APCC recommends that the alternative fence concepts be refined in the FEIR in an ⑳ attempt to further reduce impacts to wetlands, dunes and habitat. The FEIR should also provide specific square feet calculations for the impacts to coastal dunes and other environmental resources.

㉑ Because a preferred alternative for the safety/security fence has not been identified, complete mitigation details were not offered in the DEIR. A specific mitigation proposal should be included in the FEIR.

Visual Impacts

Most of the visual impacts of the proposed projects will result from the safety/security fence, additional parking spaces and the terminal expansion. These projects will have visual impacts on certain areas within the CCNS. The DEIR states that efforts to minimize the fence's impacts on dunes and wetlands by attempting to run the installation strategically along certain topography will also help to minimize visual impacts. Increased parking lot size will be screened by plantings, which will also help screen the terminal building, according to the DEIR. The degree to which the terminal building creates visual impacts depends upon whether the horizontal or vertical expansion concept is selected as the preferred alternative.

㉒ The FEIR should provide accurate visual simulations of the proposed projects as seen from key locations within the CCNS in order to help gauge the extent of visual impacts and the effectiveness of proposed screenings and other mitigation.

Conclusion

The DEIR for the Provincetown Airport capital improvements plan has provided much information about proposed project details, alternatives analysis, environmental impacts and possible mitigation. However, APCC believes that more information and study is warranted for a project that has the potential for significant impacts to sensitive habitat and state-listed species. APCC therefore calls on the Secretary to require the applicant to provide additional information on the outstanding issue areas identified in this comment letter. As was stated in its written comments on the ENF, APCC recognizes and supports the need for airport facilities that provide safety and security. But, APCC remains concerned by the extent of the project's environmental impacts, and whether the proposed mitigation will be sufficiently effective or acceptable.

APCC thanks the Secretary for this opportunity to comment.

Sincerely,

Maggie Geist

Maggie Geist
Executive Director

Don Keeran
Assistant Director

Response to Comments in letter from Association to Preserve Cape Cod, July 11, 2007.

1. Although many of the wetland areas are classified as isolated vegetated wetlands, the areas are hydrologically connected. The mosaic pattern of wetland areas intermixed with coastal dunes is a natural characteristic of the Airport wetland resources. In some cases, the complete perimeter of wetland areas was not delineated because it was well outside of the potential project impact area. Some of the wetland areas have naturally developed in response to the airfield configuration and the proposed TW projects will simply shift this configuration. Section 7 discusses further the suitability of the area for wetland restoration.

2. The existing mosaic of small and larger isolated wetlands will be maintained with the proposed wetland restoration. Wetland Restoration Area A will be located near the northwestern corner of the abandoned West End TW and the Runway 7 End, adjacent to portions of Wetlands C/J/FK and contiguous with Wetland I as shown on Figures 7.1 and 7.3. Wetland Restoration Area C is located within the footprint of the existing East End TW, south of the terminal apron and contiguous with Wetland H, as shown on Figures 7.2 and 7.4. Wetland Restoration Area C is adjacent to wetland C/J/FK at the end of Runway 7.

   These areas are highly suitable for wetland restoration because they are adjacent to existing wetlands and are close to elevations within existing wetlands. A total of six monitoring wells have been installed in and around areas designated for restoration, in order to confirm proper hydrologic conditions that will support wetland restoration and creation. Plant species are listed in a Table 7-1 in Section 7.0, along with preliminary planting specifications. Furthermore, restoration of BVW has been increased to achieve an approximately 2:1 ratio. BVW will be impacted by improvements to the MALSF Access Road and construction of the fence. Restoration Area C is for BVW restoration.

3. Successful wetland restoration will require sufficient hydrologic conditions. Specifically, groundwater should be close enough to the surface such that saturated soils exist within one foot of the final elevation during the growing season. These elevations should provide 4-12” of standing water during the winter and spring, as observed within other seasonally flooded wetland areas at the Airport. Six monitoring wells have been installed to observe groundwater elevations within the existing wetland areas as close as possible to the proposed restoration areas. Depth to water was recorded on two separate dates. No significant difference in depth to water was observed across all six wells, suggesting that removal of existing impervious materials will result in sufficient hydrological conditions.

4. On-site mitigation is proposed in areas where existing impervious surfaces will be removed. The draft wetland restoration plans have been developed to comply with several regulations and permit performance standards that relate to wetlands; including the Wetlands Protection Act, the Provincetown Wetland Bylaw, Section 401 Water Quality Certification, and Section 404 Army Corps of Engineers permit.

5. A qualified wetland scientist will oversee all aspects of the wetland restoration activities including installation of sedimentation control barriers, excavation of salvaged plant materials, removal of impervious surfaces and excavation of sub-base materials, installation of monitoring wells, soil augmentation, revegetation, and implementation of a monitoring plan.

   Wetland restoration areas will be monitored twice annually for a minimum of five growing seasons to determine the relative success of the restored wetlands. Semi-annual site inspections conducted during late spring and late summer will include an assessment of the relative health and integrity of the salvaged vegetation and newly planted individuals, percent cover of vegetation, percent cover of wetland species, and general compliance with the performance standards under 310 CMR 10.55(4)(b)(1 through 7) and in accordance with Army Corps of Engineers (ACOE) Compensatory Mitigation Guidance. Randomly distributed vegetative test quadrats will be established within the wetland restoration areas to provide consistent data regarding the relative success of the wetland plant communities. Additional measures will be taken during construction and monitoring of wetland restoration areas to discourage establishment of invasive species within the newly disturbed soils, as described in Section 7.3.

Written reports detailing the findings of each monitoring event will be submitted to the Provincetown Conservation Commission, DEP, and the Corps, as well as other regulatory agencies overseeing the wetland restoration activities. Photographic documentation will be incorporated within the monitoring reports. Recommendations will be made for the replacement of dead or dying plants, and any additional remediation, as necessary.

6. Since the Draft EA/EIR, additional wetland delineation and project development has further refined the impact calculations. Any further refinement will be included in the design plans submitted with permit applications.

7. On-site areas have been identified for project mitigation.

8. Mitigation plans are provided in Section 7.

9. Further evaluation and assessment of the parking lot options was completed. A fourth option has been identified that avoids wetland impacts. Additionally, Concept 4 can be built in phases. More information can be found in Sections 3, 5 and 6.

10. Coastal dune impacts associated with the proposed fence are included in Section 5.

11. Some of the alterations within coastal dune will be mitigated through creation of additional coastal dune within Restoration Area A in Mitigation Option 1, and Restoration Area A and B in Mitigation Option 2. Management of invasive species within coastal dune habitat is also proposed.

12. The Provincetown Conservation Commission as well as the DEP, the CCC, and ACOE will review the mitigation plans

13. Section 7.3 contains additional information on the invasive species management plan.

14. The population of Broom Crowberry will not be impacted by the proposed projects. According to preliminary discussions with NHESP, a “Take” will likely not occur on Vesper Sparrow habitat or Broom Crowberry habitat. The proposed net gain in Cultural Grassland will serve to enhance Vesper Sparrow habitat at the Airport. Cultural Grassland management also enhances habitat quality for the Broom Crowberry.

15. A single female Eastern Box Turtle was observed at the Airport in June 2007. Gaps along the fence bottom are proposed, to avoid of a “Take” of the Eastern Box Turtle.

16. At the direction of NHESP, additional field analyses of Eastern Spadefoot Toad breeding habitat have been conducted in order to better quantify potential effects on the species. Field biologists identified prime and potential breeding habitat for the Eastern Spadefoot Toad. This new information has allowed project alternatives, particularly the fence, to be

located away from areas of prime (ideal) habitat. A separate report has been created documenting observations of Eastern Spadefoot Toad habitat, which is provided in Appendix 2.

17. Cultural Grassland will be created for the TW safety areas, or restored after pavement removal as discussed above. Newly created Cultural Grasslands will be located adjacent to the restored wetland area as discussed in Section 7.

    Areas of created or restored Cultural Grasslands will be maintained by the Airport in accordance with an established mowing schedule.

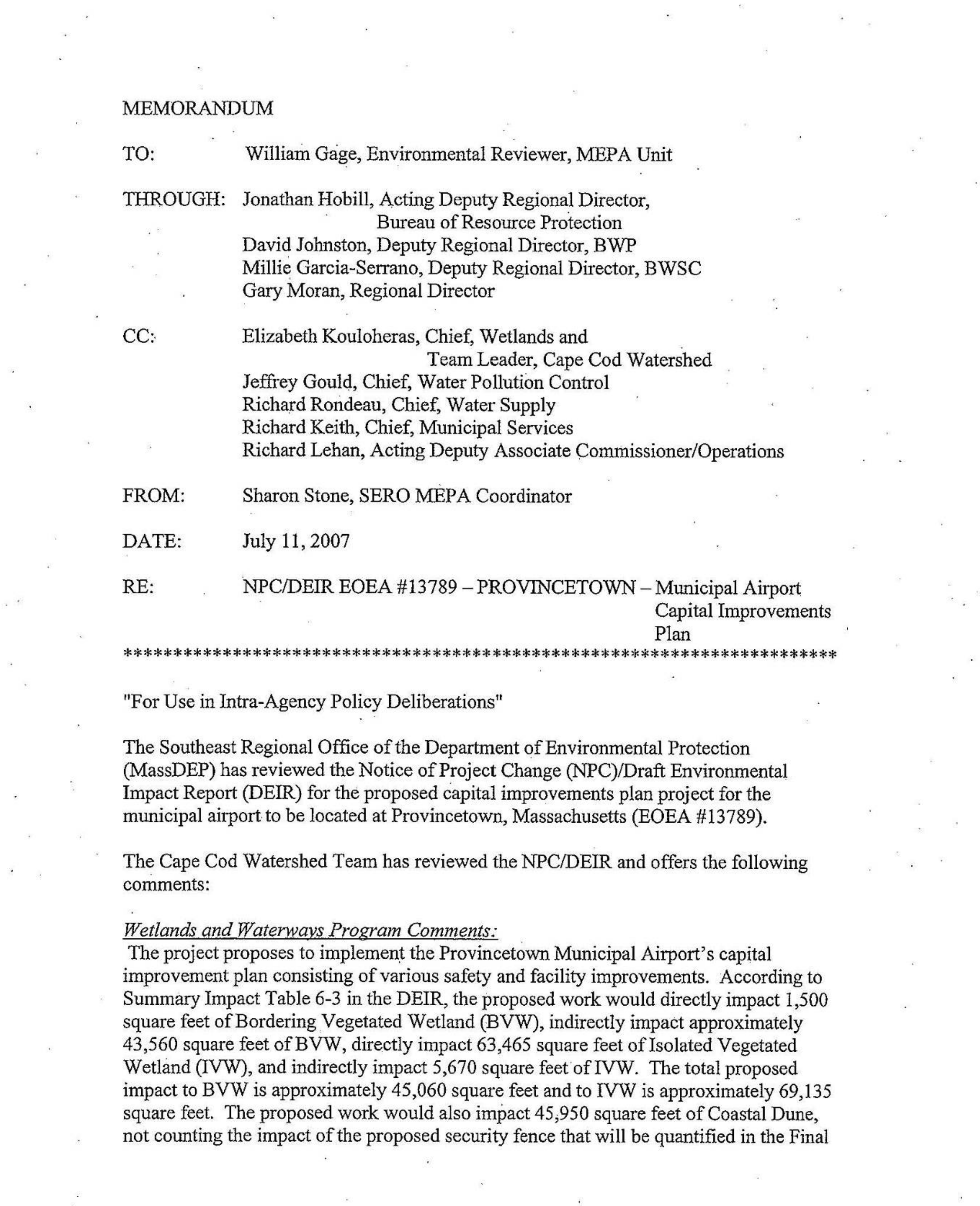
18. A Construction Management Plan will be implemented as discussed in Section 7.5 to protect rare species. This plan will be reviewed by NHESP and will include all measures necessary to avoid a “Take” of species.

19. Adding a second floor to the existing building has been identified as the preferred alternative. The building will be designed to comply with NPS and CCC landscaping/exterior building requirements, and wetland impacts will be avoided.

20. A new alternative for the safety/security fence has been developed that avoids impacts to Hatches Harbor and minimizes impacts to state listed species and their habitats. Additional information about the Concept 6 fence alignment can be found in Sections 3, 5, and 6. Specific project impacts to coastal dunes, Buffer Zone as well as wetland resources are provided in Section 5.

21. A preferred alternative for the fence has been identified. Detailed mitigation plans are provided in Section 7, including a Construction Management Plan.

22. Visual impacts from the parking lot will be mitigated with landscaping. The Terminal building will match the current exterior design details.



MEMORANDUM

TO: William Gage, Environmental Reviewer, MEPA Unit

THROUGH: Jonathan Hobill, Acting Deputy Regional Director,
Bureau of Resource Protection
David Johnston, Deputy Regional Director, BWP
Millie Garcia-Serrano, Deputy Regional Director, BWSC
Gary Moran, Regional Director

CC: Elizabeth Kouloheras, Chief, Wetlands and
Team Leader, Cape Cod Watershed
Jeffrey Gould, Chief, Water Pollution Control
Richard Rondeau, Chief, Water Supply
Richard Keith, Chief, Municipal Services
Richard Lehan, Acting Deputy Associate Commissioner/Operations

FROM: Sharon Stone, SERO MEPA Coordinator

DATE: July 11, 2007

RE: NPC/DEIR EOEA #13789 – PROVINCETOWN – Municipal Airport
Capital Improvements
Plan

****

"For Use in Intra-Agency Policy Deliberations"

The Southeast Regional Office of the Department of Environmental Protection (MassDEP) has reviewed the Notice of Project Change (NPC)/Draft Environmental Impact Report (DEIR) for the proposed capital improvements plan project for the municipal airport to be located at Provincetown, Massachusetts (EOEA #13789).

The Cape Cod Watershed Team has reviewed the NPC/DEIR and offers the following comments:

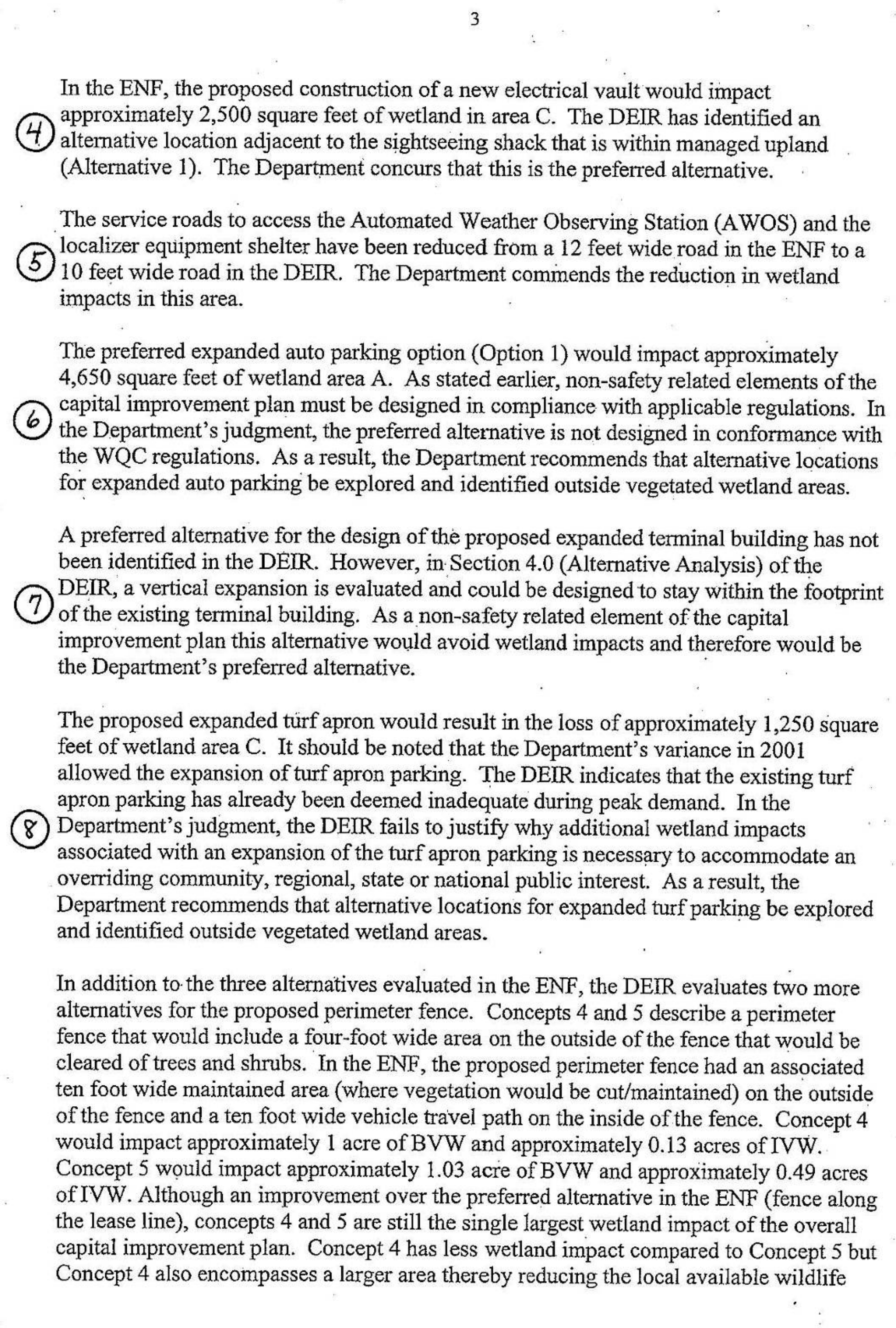
Wetlands and Waterways Program Comments:
The project proposes to implement the Provincetown Municipal Airport's capital improvement plan consisting of various safety and facility improvements. According to Summary Impact Table 6-3 in the DEIR, the proposed work would directly impact 1,500 square feet of Bordering Vegetated Wetland (BVW), indirectly impact approximately 43,560 square feet of BVW, directly impact 63,465 square feet of Isolated Vegetated Wetland (IVW), and indirectly impact 5,670 square feet of IVW. The total proposed impact to BVW is approximately 45,060 square feet and to IVW is approximately 69,135 square feet. The proposed work would also impact 45,950 square feet of Coastal Dune, not counting the impact of the proposed security fence that will be quantified in the Final

Environmental Impact Report (FEIR). The property is also mapped as habitat for rare and endangered wildlife.

① Due to the proposed impacts to BVW, the project does not conform to the Wetlands Protection Act Regulations performance standards for BVW. As a result, the proposed project will require a variance from the Wetlands Protection Act. In addition, pursuant to 314 CMR 9.00, the wetlands proposed to be impacted are defined as Outstanding Resource Waters (ORWs). In accordance with 314 CMR 9.06(3), the proposed project does not conform to the regulations since no discharge of fill material is allowed in an ORW unless specified in 314 CMR 9.06(3)(a) through (i). As a result, the proposed project will also require a variance from the Water Quality Certification (WQC) Regulations unless the project receives a variance under 310 CMR 10.05 (10) where consideration has been given to the Outstanding Resource Water designated in the variance analysis as provided for in 314 CMR 9.06 (3) (h).

② A variance from the Wetlands Protection Act may be granted if the proponent demonstrates that there are no reasonable alternatives that would allow the project to proceed in compliance with the regulations, that mitigating measures are proposed that will allow the project to be conditioned so as to contribute to the protection of the interests identified in the Act and that the variance is necessary to accommodate an overriding community, regional, state or national public interest. As noted in the Department's comment letter on the ENF, a variance may be appropriate to alleviate airport safety concerns but may not be appropriate for other normal airport maintenance projects. Many of the proposed capital improvements are related to various FAA-mandated safety issues, however, the proposed expanded turf apron, auto parking lot and terminal building appear to be related to forecasted increases in airport capacity. As a result, these non-safety related elements of the capital improvement plan will be required to be designed in conformance with the applicable regulations. All other proposed work will need to be designed to avoid, minimize and mitigate for those unavoidable wetland impacts.

③ The proposed relocation of the West End and East End Taxiways and subsequent abandonment of the existing paved areas in those locations provide an opportunity for on-site wetland restoration. The Mitigation Plans in Section 7.0 indicate that a total of approximately 64,000 square feet of freshwater wetlands will be created in two locations. Although the proposed wetland mitigation is commendable it doesn't provide the greater than 1:1 replacement of all lost wetlands associated with the variance (i.e. overriding public safety requirements associated with airport safety improvements), including all direct and indirect loss of bordering and isolated vegetated wetlands portion of the project and mitigation of at least 1:1 for the non-variance portions of the project (i.e. the "non-safety" facility and capacity improvement). The Department expects the proponent to explore and identify other mitigation opportunities in order to fully mitigate for all wetland losses on at least a 1:1 basis. To that end, the Department would suggest that the proposed 5000 square feet of coastal dune restoration in Wetland Restoration Area B be changed to restoration of additional freshwater wetlands.



④ In the ENF, the proposed construction of a new electrical vault would impact approximately 2,500 square feet of wetland in area C. The DEIR has identified an alternative location adjacent to the sightseeing shack that is within managed upland (Alternative 1). The Department concurs that this is the preferred alternative.

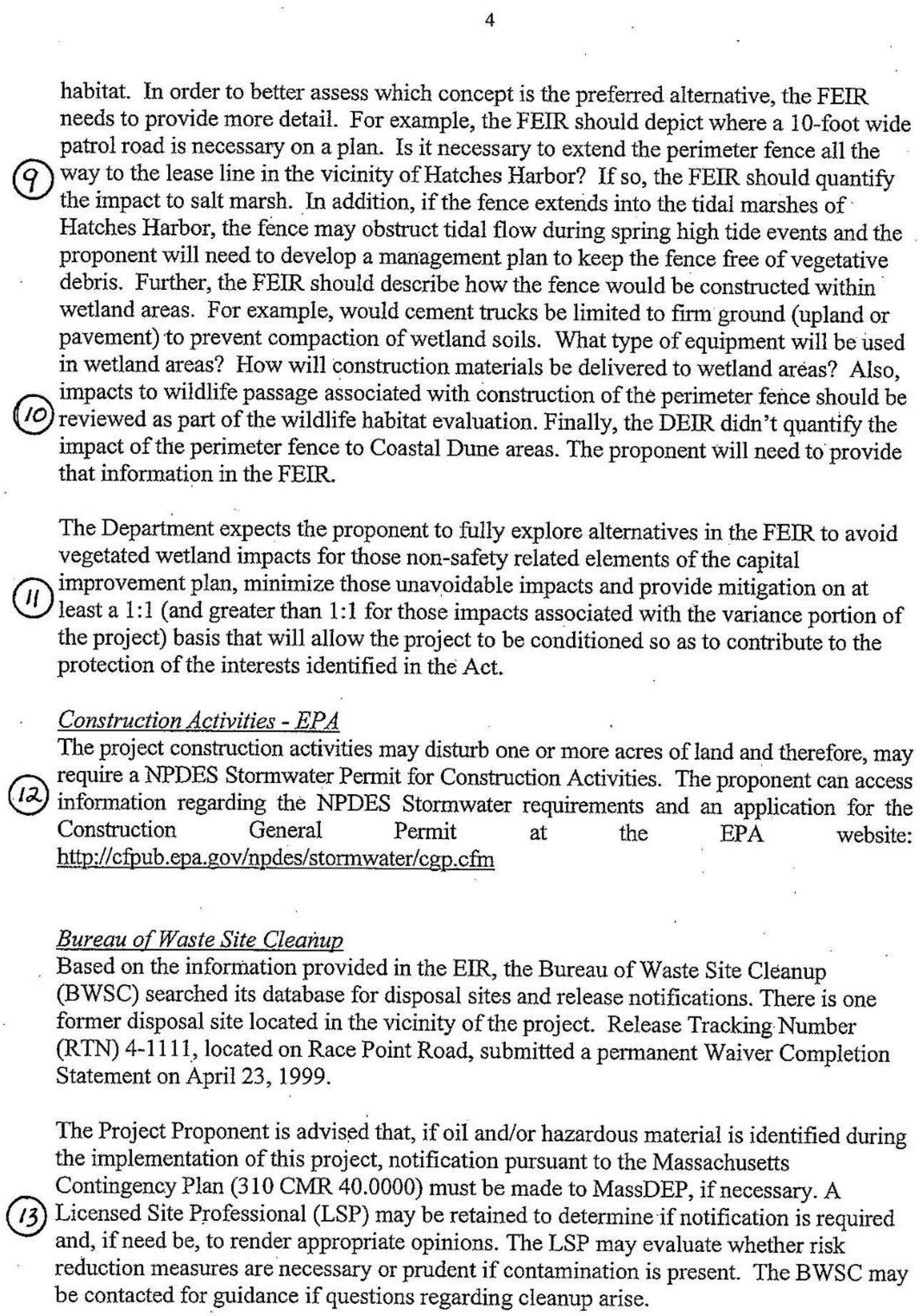
⑤ The service roads to access the Automated Weather Observing Station (AWOS) and the localizer equipment shelter have been reduced from a 12 feet wide road in the ENF to a 10 feet wide road in the DEIR. The Department commends the reduction in wetland impacts in this area.

⑥ The preferred expanded auto parking option (Option 1) would impact approximately 4,650 square feet of wetland area A. As stated earlier, non-safety related elements of the capital improvement plan must be designed in compliance with applicable regulations. In the Department's judgment, the preferred alternative is not designed in conformance with the WQC regulations. As a result, the Department recommends that alternative locations for expanded auto parking be explored and identified outside vegetated wetland areas.

⑦ A preferred alternative for the design of the proposed expanded terminal building has not been identified in the DEIR. However, in Section 4.0 (Alternative Analysis) of the DEIR, a vertical expansion is evaluated and could be designed to stay within the footprint of the existing terminal building. As a non-safety related element of the capital improvement plan this alternative would avoid wetland impacts and therefore would be the Department's preferred alternative.

⑧ The proposed expanded turf apron would result in the loss of approximately 1,250 square feet of wetland area C. It should be noted that the Department's variance in 2001 allowed the expansion of turf apron parking. The DEIR indicates that the existing turf apron parking has already been deemed inadequate during peak demand. In the Department's judgment, the DEIR fails to justify why additional wetland impacts associated with an expansion of the turf apron parking is necessary to accommodate an overriding community, regional, state or national public interest. As a result, the Department recommends that alternative locations for expanded turf parking be explored and identified outside vegetated wetland areas.

In addition to the three alternatives evaluated in the ENF, the DEIR evaluates two more alternatives for the proposed perimeter fence. Concepts 4 and 5 describe a perimeter fence that would include a four-foot wide area on the outside of the fence that would be cleared of trees and shrubs. In the ENF, the proposed perimeter fence had an associated ten foot wide maintained area (where vegetation would be cut/maintained) on the outside of the fence and a ten foot wide vehicle travel path on the inside of the fence. Concept 4 would impact approximately 1 acre of BVW and approximately 0.13 acres of IVW. Concept 5 would impact approximately 1.03 acre of BVW and approximately 0.49 acres of IVW. Although an improvement over the preferred alternative in the ENF (fence along the lease line), concepts 4 and 5 are still the single largest wetland impact of the overall capital improvement plan. Concept 4 has less wetland impact compared to Concept 5 but Concept 4 also encompasses a larger area thereby reducing the local available wildlife



habitat. In order to better assess which concept is the preferred alternative, the FEIR
needs to provide more detail. For example, the FEIR should depict where a 10-foot wide
patrol road is necessary on a plan. Is it necessary to extend the perimeter fence all the
(9) way to the lease line in the vicinity of Hatches Harbor? If so, the FEIR should quantify
the impact to salt marsh. In addition, if the fence extends into the tidal marshes of
Hatches Harbor, the fence may obstruct tidal flow during spring high tide events and the
proponent will need to develop a management plan to keep the fence free of vegetative
debris. Further, the FEIR should describe how the fence would be constructed within
wetland areas. For example, would cement trucks be limited to firm ground (upland or
pavement) to prevent compaction of wetland soils. What type of equipment will be used
in wetland areas? How will construction materials be delivered to wetland areas? Also,
impacts to wildlife passage associated with construction of the perimeter fence should be
(10) reviewed as part of the wildlife habitat evaluation. Finally, the DEIR didn't quantify the
impact of the perimeter fence to Coastal Dune areas. The proponent will need to provide
that information in the FEIR.

The Department expects the proponent to fully explore alternatives in the FEIR to avoid
vegetated wetland impacts for those non-safety related elements of the capital
(11) improvement plan, minimize those unavoidable impacts and provide mitigation on at
least a 1:1 (and greater than 1:1 for those impacts associated with the variance portion of
the project) basis that will allow the project to be conditioned so as to contribute to the
protection of the interests identified in the Act.

Construction Activities - EPA

The project construction activities may disturb one or more acres of land and therefore, may
require a NPDES Stormwater Permit for Construction Activities. The proponent can access
(12) information regarding the NPDES Stormwater requirements and an application for the
Construction General Permit at the EPA website:
http://cfpub.epa.gov/npdes/stormwater/cgp.cfm

Bureau of Waste Site Cleanup

Based on the information provided in the EIR, the Bureau of Waste Site Cleanup (BWSC) searched its database for disposal sites and release notifications. There is one former disposal site located in the vicinity of the project. Release Tracking Number (RTN) 4-1111, located on Race Point Road, submitted a permanent Waiver Completion Statement on April 23, 1999.

The Project Proponent is advised that, if oil and/or hazardous material is identified during
the implementation of this project, notification pursuant to the Massachusetts
Contingency Plan (310 CMR 40.0000) must be made to MassDEP, if necessary. A
(13) Licensed Site Professional (LSP) may be retained to determine if notification is required
and, if need be, to render appropriate opinions. The LSP may evaluate whether risk
reduction measures are necessary or prudent if contamination is present. The BWSC may
be contacted for guidance if questions regarding cleanup arise.

The MassDEP Southeast Regional Office appreciates the opportunity to comment on this proposed project. If you have any questions regarding these comments, please contact Sharon Stone at (508) 946-2846.

Response to comments in letter from DEP Southeast Regional Office (SERO), July 11, 2007

1. A Notice of Intent will be submitted to the PCC for all project elements that will alter wetland resources or occur within the Buffer Zone to wetland resources. The Commission will be asked to issue an Order of Conditions for the elements that meet the performance standards of the WPA and local bylaw regulations.

   The fence project and the improvements to the MALSF access road would directly (permanently) alter a total of 2,460 SF of Bordering Vegetated Wetland (BVW).

   Wetland resources within the entire CCNS are classified as Outstanding Resource Waters (ORWs). Any alteration to wetlands requires at an minimum, an Individual Water Quality Certification (WQC). Pursuant to CMR 9.06(3)(c), some of the projects would be classified as "*Maintenance, repair, replacement, or reconstruction, but not substantial enlargement of lawfully located structures or facilities including buildings, roads, railways, utilities and coastal engineering structures*."

2. Since the circulation of the NPC/Draft EIR/EA, the alternatives analysis has been expanded and additional alternatives have been developed for the turf apron and auto parking lot that avoid impacts to wetlands. The preferred alternative for the Terminal is the vertical expansion which will not impact wetlands.

3. Direct alterations within BVW and IVW will be mitigated through the proposed on-site wetland restoration which reflects an approximately 1:1 restoration of isolated vegetated wetlands in two locations (Restoration Areas A, and C), and an approximately 2:1 for BVW impacts (on-site Restoration Area B).

   Relocation of the West End TW and East End TW and subsequent abandonment of the existing paved areas allow for wetland restoration within the footprint of the existing paved areas. A total of between 69,000 SF and 83,000 SF of restored freshwater wetlands is proposed within the Airport in three locations.

   Wetland Restoration Area A will be located near the northwestern corner of the abandoned West End TW and the Runway 7 End, contiguous with Wetland I as shown on Figures 7.1 and 7.3. Wetland Restoration Area C is located within the footprint of the existing East End TW, south of the terminal apron and is contiguous with Wetland H, as shown on Figures 7.2 and 7.4. These areas are highly suitable for wetland restoration due to their proximity to existing wetlands, connectivity to groundwater and existing elevations. The BVW Restoration Area B would provide approximately 5,000 SF of wetland restoration as shown on Figure 7.1.

4. This location has been identified as the Preferred Alternative.

5. Since the NPC/Draft EIR/EA, the amount of impervious surface has also been reduced.

- A fourth option has been identified that avoids wetland impacts. Additional information can be found in Sections 3, 5 and 6.

- The vertical expansion has been identified as the preferred alternative.

- A reduced dimension alternative has been developed for the turf apron that avoids wetland impacts. Additional information is provided in Sections 3, 5 and 6.

- An additional fence alternative alignment (Concept 6) has been developed. Concept 6 would maintain a four foot wide area on the both sides of the fence to be clear of trees and shrubs. This area would be either mowed or trimmed but not graded. No patrol roads are proposed for this alignment. Additionally, Concept 6 eliminates fencing at the west end around the ILS within Hatches Harbor. Gaps along the fence bottom are proposed, so as to avoid a “Take” of the Eastern Box Turtle. Additional information is provided in Section 3.

- A Construction Management Plan has been developed and is provided in Section 7. Impacts to coastal dunes have been calculated and are in included in Section 6.

- All previously considered alternatives were revisited in order to fully quantify all potential environmental impacts (e.g., wetland, wildlife habitat, etc.). Newer concepts have been compared to previous concepts in order to identify the environmentally preferred alternative. New concepts have been developed for the parking lot expansion, the safety/security fence alignment, and the turf apron. The new parking expansion alternative has no wetland impacts, unlike the previous parking expansion concepts. Vertical expansion of the terminal building is proposed, which will remain within the existing footprint. The turf apron has been redesigned so that it will not impact any portion of Wetland C. The new concept for the fence alignment considers all resource areas, including wildlife habitat and wildlife corridors in its alignment. The Preferred Alternative for the fence will avoid these critical areas to the fullest extent possible.

Section 7.0 is devoted solely to mitigation. It details, both via text and figures, areas designated for restoration and the mitigation ratio that will be achieved. On-site wetland restoration will be at approximately a 1:1 ratio for IVW and 2:1 ratio for BVW. Wetland restoration is known to have a higher success rate than wetland replication because wetland areas will be restored and not created.

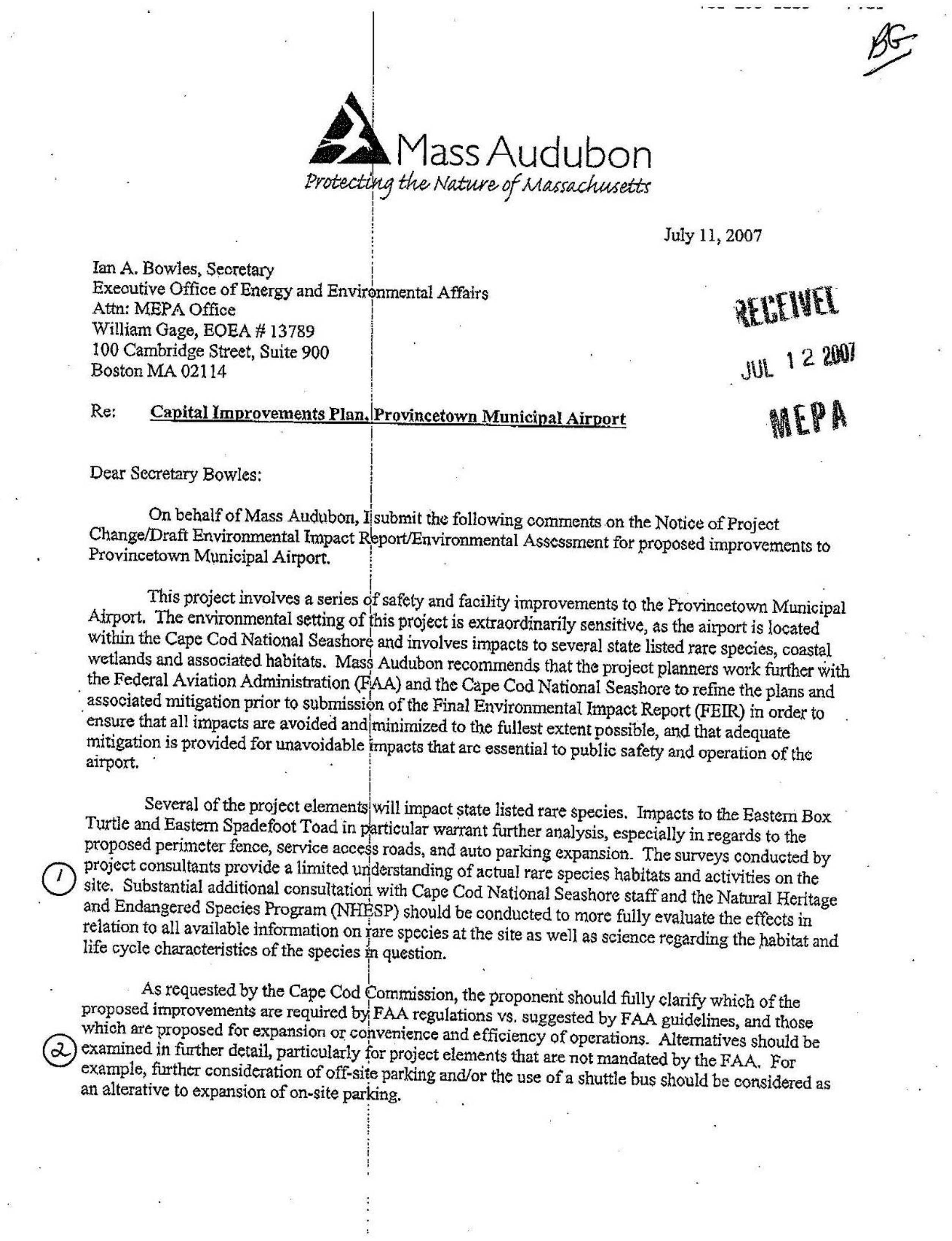
Three areas have been identified for restoration efforts that will incorporate wetland restoration, coastal dune creation and Cultural Grassland creation to compensate for lost resources as a result of the improvement projects.

12. The NPDES Storm Water Program requires operators of large and small construction sites to obtain authorization to discharge storm water under an NPDES construction storm water permit. This program is administered jointly by EPA and DEP. A Notice of Intent will be filed with the U.S. Environmental Protection Agency for an NPDES Construction Management General Permit 72 hours prior to the start of construction. The contractor will be required to prepare a Stormwater Pollution Prevention Plan and adhere to the plan to control stormwater and prevent the movement of sediment from the construction site.

    Operation of the Airport is subject to the NPDES Stormwater Multi-Sector General Permit. According to the NPDES Program, airports are listed under Category vii “Transportation facilities with Standard Industrial Codes 40, 41, 42, 43, 44, 45, and 5171, which have Cleaning Operations or Airport Deicing Operations.” The Airport is Sector S, Air Transportation Facilities, and its Standard Industrial Code is 4580, “airports, flying fields, and surfaces.” Those areas of the airport that discharge to “waters of the United States” are subject to NPDES jurisdiction. For Provincetown Municipal Airport, this means those areas that are tributary to the wetlands on-site.

In compliance with the NPDES Program, the Airport developed a SWPPP in October 2000, revised in July 2002. The SWPPP describes the drainage system at the Airport, identifies potential pollution sources that might enter the drainage network and impact downstream receiving waters, and lists BMPs for decreasing impacts.

13. If oil and /or hazardous material is identified during construction, DEP will be notified, and all regulations will be followed.



BG

Mass Audubon
Protecting the Nature of Massachusetts

July 11, 2007

Ian A. Bowles, Secretary
Executive Office of Energy and Environmental Affairs
Attn: MEPA Office
William Gage, EOEA # 13789
100 Cambridge Street, Suite 900
Boston MA 02114

RECEIVED
JUL 12 2007
MEPA

Re: Capital Improvements Plan, Provincetown Municipal Airport

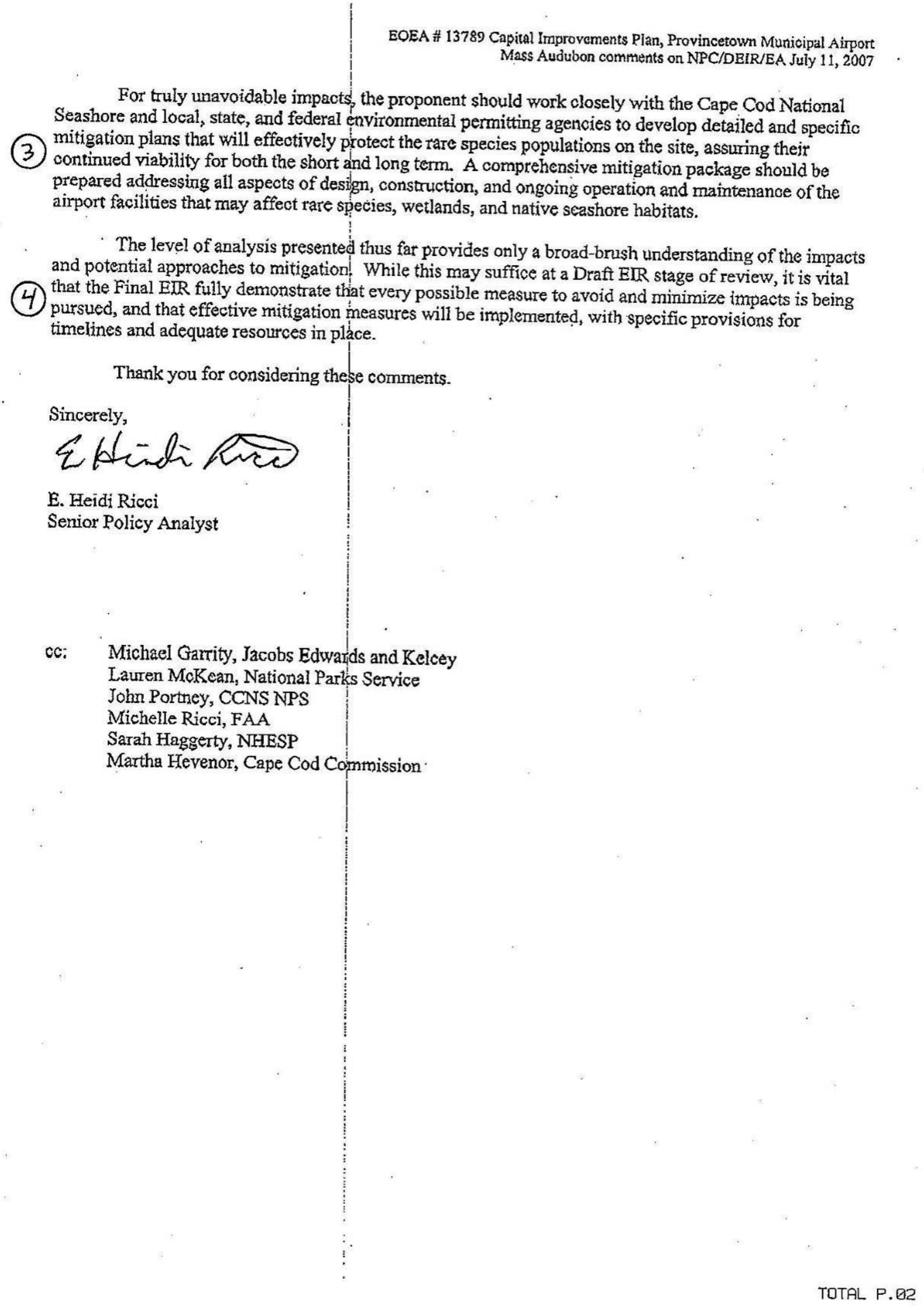
Dear Secretary Bowles:

On behalf of Mass Audubon, I submit the following comments on the Notice of Project Change/Draft Environmental Impact Report/Environmental Assessment for proposed improvements to Provincetown Municipal Airport.

This project involves a series of safety and facility improvements to the Provincetown Municipal Airport. The environmental setting of this project is extraordinarily sensitive, as the airport is located within the Cape Cod National Seashore and involves impacts to several state listed rare species, coastal wetlands and associated habitats. Mass Audubon recommends that the project planners work further with the Federal Aviation Administration (FAA) and the Cape Cod National Seashore to refine the plans and associated mitigation prior to submission of the Final Environmental Impact Report (FEIR) in order to ensure that all impacts are avoided and minimized to the fullest extent possible, and that adequate mitigation is provided for unavoidable impacts that are essential to public safety and operation of the airport.

① Several of the project elements will impact state listed rare species. Impacts to the Eastern Box Turtle and Eastern Spadefoot Toad in particular warrant further analysis, especially in regards to the proposed perimeter fence, service access roads, and auto parking expansion. The surveys conducted by project consultants provide a limited understanding of actual rare species habitats and activities on the site. Substantial additional consultation with Cape Cod National Seashore staff and the Natural Heritage and Endangered Species Program (NHESP) should be conducted to more fully evaluate the effects in relation to all available information on rare species at the site as well as science regarding the habitat and life cycle characteristics of the species in question.

② As requested by the Cape Cod Commission, the proponent should fully clarify which of the proposed improvements are required by FAA regulations vs. suggested by FAA guidelines, and those which are proposed for expansion or convenience and efficiency of operations. Alternatives should be examined in further detail, particularly for project elements that are not mandated by the FAA. For example, further consideration of off-site parking and/or the use of a shuttle bus should be considered as an alterative to expansion of on-site parking.



③ For truly unavoidable impacts, the proponent should work closely with the Cape Cod National Seashore and local, state, and federal environmental permitting agencies to develop detailed and specific mitigation plans that will effectively protect the rare species populations on the site, assuring their continued viability for both the short and long term. A comprehensive mitigation package should be prepared addressing all aspects of design, construction, and ongoing operation and maintenance of the airport facilities that may affect rare species, wetlands, and native seashore habitats.

④ The level of analysis presented thus far provides only a broad-brush understanding of the impacts and potential approaches to mitigation. While this may suffice at a Draft EIR stage of review, it is vital that the Final EIR fully demonstrate that every possible measure to avoid and minimize impacts is being pursued, and that effective mitigation measures will be implemented, with specific provisions for timelines and adequate resources in place.

Thank you for considering these comments.

Sincerely,

E Heidi Ricci

E. Heidi Ricci
Senior Policy Analyst

cc: Michael Garrity, Jacobs Edwards and Kelcey
Lauren McKean, National Parks Service
John Portney, CCNS NPS
Michelle Ricci, FAA
Sarah Haggerty, NHESP
Martha Hevenor, Cape Cod Commission

TOTAL P.02

Response to Comments in letter from Mass Audubon, July 11, 2007

1. State-listed rare species mapped by NHESP at the Airport include: the Eastern Box Turtle, the Vesper Sparrow, Broom Crowberry, and the Eastern Spadefoot Toad. As part of the review of the NPC/Draft EIR/EA, NHESP indicated that the proposed improvement projects might result in a "Take" of the Eastern Spadefoot Toad, and the Eastern Box Turtle if construction avoidance methods were not developed. The NHESP also indicated that, with certain construction conditions, a "Take" may be avoided for the Vesper Sparrow and the Eastern Spadefoot Toad. NHESP emphasized that the Airport should try to avoid a "Take," if possible.

   Since the NPC/Draft EIR/EA, the Project Team has met with NHESP twice (see minutes provided in Section 10.1) to discuss ways to minimize impacts to all listed species. Additional design alternatives, construction phase measures, and operational mitigation measures have been developed to avoid a "Take" of any listed species at the Airport as a result of the CIP projects. This FEIR/EA reflects those measures. A MESA Project Review Checklist will be submitted to NHESP for their review and determination.

   A new fence concept has been developed to minimize habitat fragmentation and habitat degradation of the four state-listed species found at the Airport. The fence alignment has been developed to avoid the prime Spadefoot habitat. Gaps along the fence bottom are proposed, so as to avoid a "Take" of the Eastern Box Turtle as discussed further in Section 6.10. Construction phase and operational mitigation measures have also been developed.

   Mitigation efforts involving habitat restoration, creation, or enhancement for the listed species are also proposed to provide a long term net benefit to the species. Construction will also be timed to avoid breeding times or other periods of peak activity if possible.

   The Vegetation Management Plan is discussed in Section 7.4.

2. Section 2, Purpose and Need, has been revised and expanded to provide additional information on FAA, TSA and MassDOT Aeronautics regulations. The FAA publishes documents known as Advisory Circulars (AC) and Orders, which while not regulations, provide accepted operational safety design standards to meet responsibilities pursuant to the regulations. The use of these standards is mandatory for airport projects receiving Federal grant-in-aid assistance. AIP funded projects are required to comply with certain FAA Advisory Circulars (AC).

   The specific design standards that apply to each project are identified in Section 2.1. Table 2.1 lists all the regulations that pertain to the projects. The applicable portions of the referenced documents are provided in Appendix 6. Table 2.2 summarizes which elements have been proposed in response to safety and security requirements and which are capacity projects.

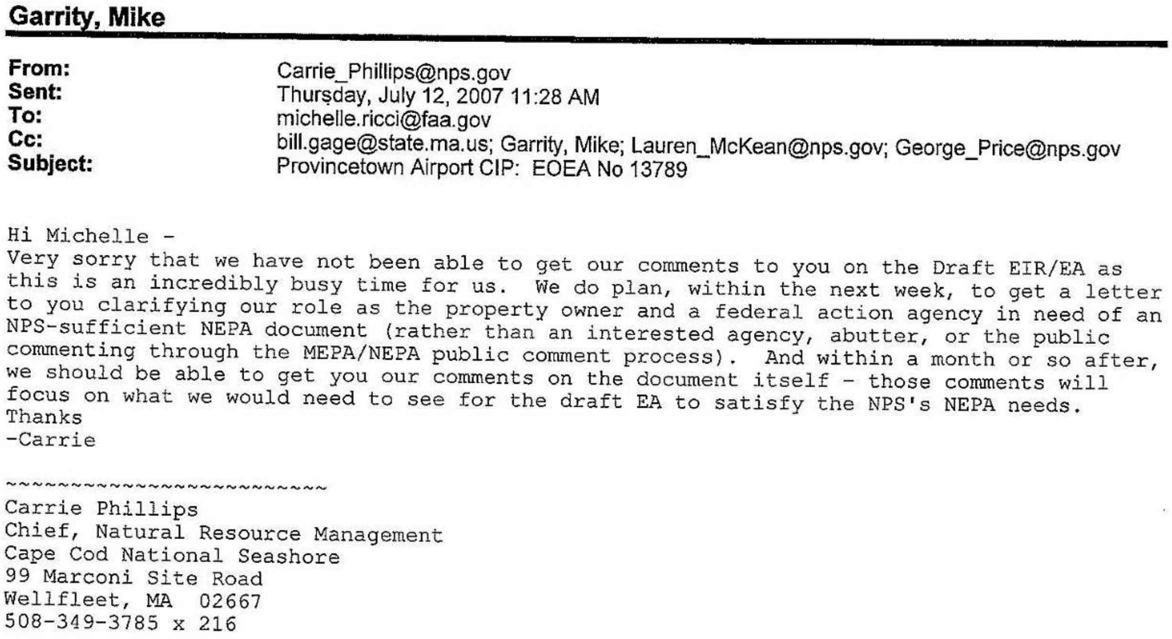
   Wetland impacts have been reduced with new alternatives for the fence, turf apron and auto parking. The preferred alternative for the Terminal project is the vertical expansion, which will not impact wetlands. On-site wetland replication for direct IVW impacts, including coastal dune, is proposed at a 1:1 ratio, while on-site BVW impacts will be restored at an on-site 2:1 ratio.

3. Section 7.0 is devoted solely to mitigation. It details, both via text and figures, the areas designated for restoration and the mitigation ratio that will be achieved. On-site IVW mitigation ratio for IVW is 1:1, while the on-site mitigation ratio for BVW is 2:1.

   Three areas have been identified for restoration efforts that will incorporate wetland restoration, coastal dune creation and Cultural Grassland creation to compensate for lost resources as a result of the improvement projects

4. Environmentally preferred alternatives that have been identified will avoid and minimize impacts to wetland resource areas and associated Buffer Zones to the fullest extent practicable as discussed further in Sections 3, 5 and 6. Certain CIP projects that were developed to address FAA safety standards will result in unavoidable impacts to wetlands. These projects have an overriding public security/safety interest and include: safety/security fence, westerly taxiway system improvements, relocation of the east end taxiway, improvement to the access road to the MALSF approach lights, and the service access roads to the LES and to the AWOS. Mitigation measures were designed to address the Wetlands Protection Act and other mitigation guidelines to the extent practical. Three discrete areas have been designated for restoration and mitigation efforts. Wetland restoration, coastal dune creation, and Cultural Grassland creation will all occur in the restoration areas. On-site wetland mitigation will occur at a 1:1 restoration rate for IVW impacts and 2:1 for BVW impacts. Table 5-3 summarizes impacts and proposed mitigation.

   Several of the CIP projects will result in alterations within the 100-foot Buffer Zone of one or more wetland areas. In general, the existing Buffer Zone composition consists of one or more of the following: unaltered coastal dune, managed/Cultural Grasslands, impervious surfaces (buildings, pavement), or in some cases, where wetland areas are in close proximity to each other, the Buffer Zone to one wetland may encompass one or more of the adjacent wetlands.



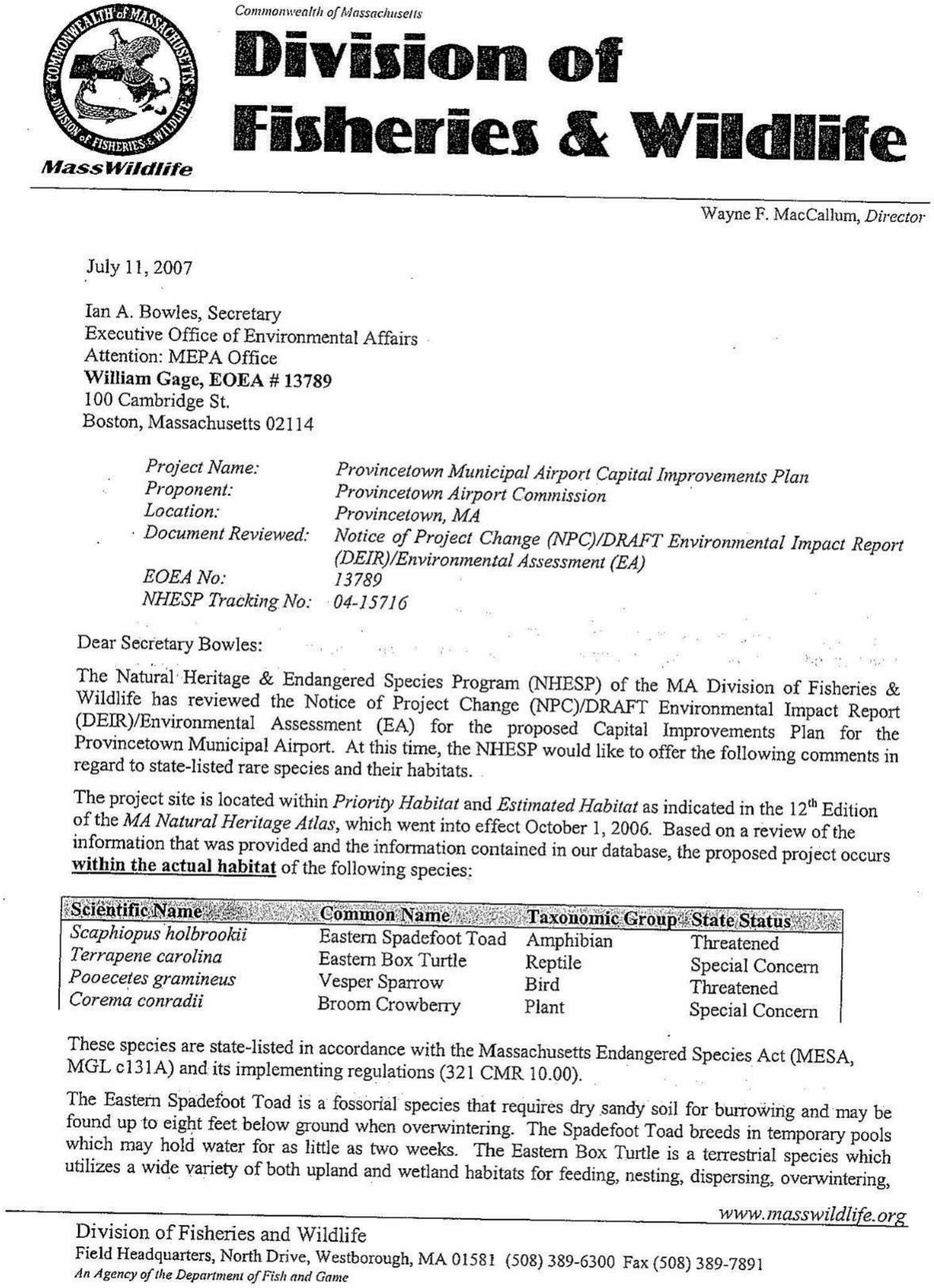
Garrity, Mike

From: Carrie_Phillips@nps.gov
Sent: Thursday, July 12, 2007 11:28 AM
To: michelle.ricci@faa.gov
Cc: bill.gage@state.ma.us; Garrity, Mike; Lauren_McKean@nps.gov; George_Price@nps.gov
Subject: Provincetown Airport CIP: EOEA No 13789

Hi Michelle -
Very sorry that we have not been able to get our comments to you on the Draft EIR/EA as this is an incredibly busy time for us. We do plan, within the next week, to get a letter to you clarifying our role as the property owner and a federal action agency in need of an NPS-sufficient NEPA document (rather than an interested agency, abutter, or the public commenting through the MEPA/NEPA public comment process). And within a month or so after, we should be able to get you our comments on the document itself - those comments will focus on what we would need to see for the draft EA to satisfy the NPS's NEPA needs.
Thanks
-Carrie

~~~~~~~~~~~~~~~~~~~~~~~~~
Carrie Phillips
Chief, Natural Resource Management
Cape Cod National Seashore
99 Marconi Site Road
Wellfleet, MA 02667
508-349-3785 x 216
~~~~~~~~~~~~~~~~~~~~~~~~~

No response necessary to email from National Park Service CCNS, July 12, 2007. Refer to Section 13.3 for NPS comment letter and responses.



MassWildlife

Commonwealth of Massachusetts
Division of Fisheries & Wildlife

Wayne F. MacCallum, *Director*

July 11, 2007

Ian A. Bowles, Secretary
Executive Office of Environmental Affairs
Attention: MEPA Office
William Gage, EOEA # 13789
100 Cambridge St.
Boston, Massachusetts 02114

Project Name:	*Provincetown Municipal Airport Capital Improvements Plan*
Proponent:	*Provincetown Airport Commission*
Location:	*Provincetown, MA*
Document Reviewed:	*Notice of Project Change (NPC)/DRAFT Environmental Impact Report (DEIR)/Environmental Assessment (EA)*
EOEA No:	*13789*
NHESP Tracking No:	*04-15716*

Dear Secretary Bowles:

The Natural Heritage & Endangered Species Program (NHESP) of the MA Division of Fisheries & Wildlife has reviewed the Notice of Project Change (NPC)/DRAFT Environmental Impact Report (DEIR)/Environmental Assessment (EA) for the proposed Capital Improvements Plan for the Provincetown Municipal Airport. At this time, the NHESP would like to offer the following comments in regard to state-listed rare species and their habitats.

The project site is located within *Priority Habitat* and *Estimated Habitat* as indicated in the 12th Edition of the *MA Natural Heritage Atlas*, which went into effect October 1, 2006. Based on a review of the information that was provided and the information contained in our database, the proposed project occurs **within the actual habitat** of the following species:

Scientific Name	Common Name	Taxonomic Group	State Status
Scaphiopus holbrookii	Eastern Spadefoot Toad	Amphibian	Threatened
Terrapene carolina	Eastern Box Turtle	Reptile	Special Concern
Pooecetes gramineus	Vesper Sparrow	Bird	Threatened
Corema conradii	Broom Crowberry	Plant	Special Concern

These species are state-listed in accordance with the Massachusetts Endangered Species Act (MESA, MGL c131A) and its implementing regulations (321 CMR 10.00).

The Eastern Spadefoot Toad is a fossorial species that requires dry sandy soil for burrowing and may be found up to eight feet below ground when overwintering. The Spadefoot Toad breeds in temporary pools which may hold water for as little as two weeks. The Eastern Box Turtle is a terrestrial species which utilizes a wide variety of both upland and wetland habitats for feeding, nesting, dispersing, overwintering,

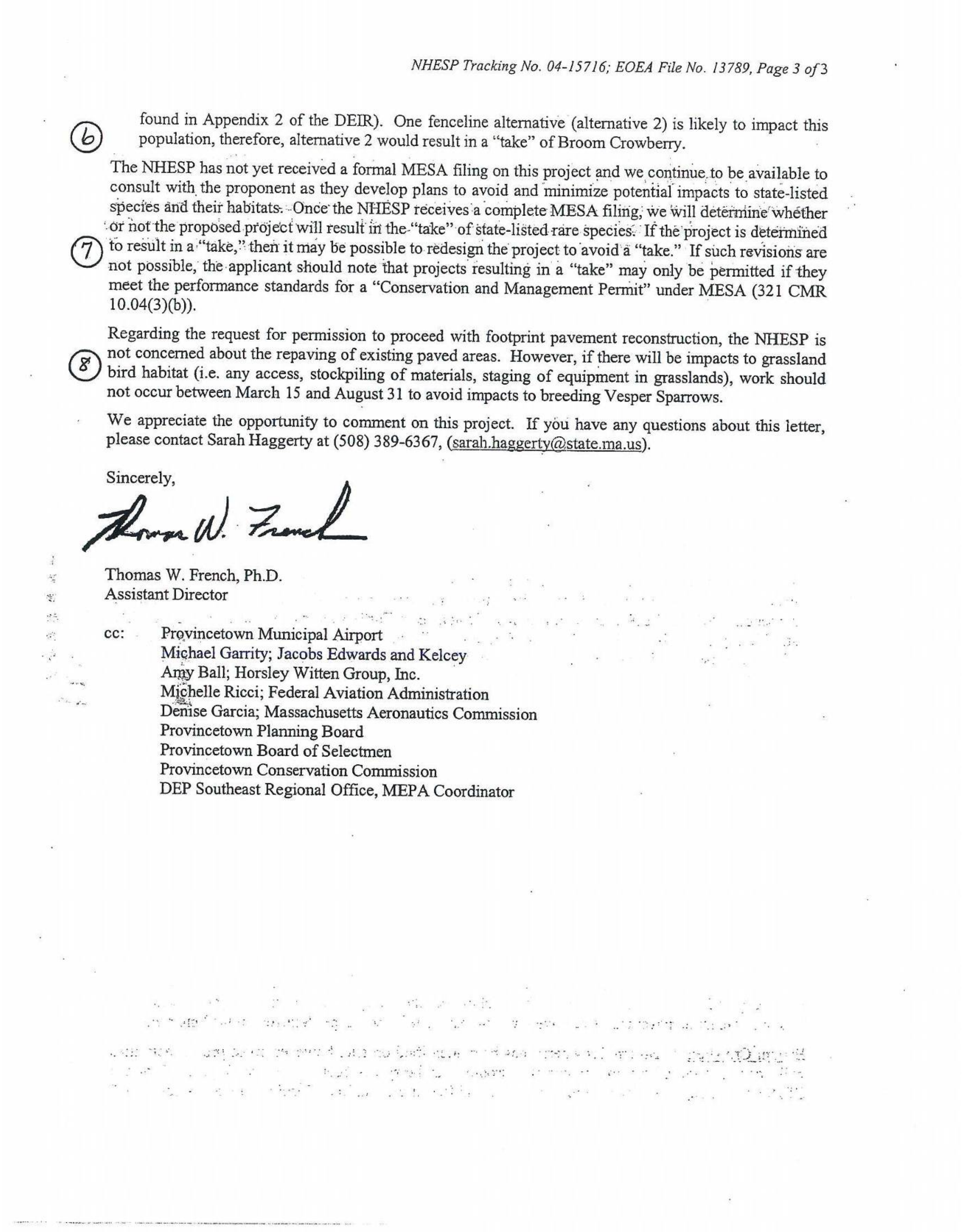
www.masswildlife.org

Division of Fisheries and Wildlife
Field Headquarters, North Drive, Westborough, MA 01581 (508) 389-6300 Fax (508) 389-7891
An Agency of the Department of Fish and Game

breeding, estivating, and shelter. The Vesper Sparrow inhabits open areas with scattered vegetation and well-drained soils where they breed, nest, and forage. Broom Crowberry is a low-growing bushy evergreen shrub that inhabits dry sandy flats. It often occurs in few to several clumps or in scattered patches in low shrub or moor communities.

The project proponent has been consulting with NHESP regarding state-listed species concerns, and the proponent has conducted field surveys and a habitat assessment of the site to determine the impacts of the proposed activities on the species listed above. The proponent has not formally filed with the NHESP pursuant to the MESA (321 CMR 10.18), but the NHESP anticipates reviewing such a filing once plans have been finalized. Based on a review of the information submitted, the information in our database, and a site visit by NHESP staff on June 12, 2007 the NHESP would like to offer the following preliminary opinion:

- Eastern Spadefoot Toad: Potential breeding habitat for the Eastern Spadefoot Toad has been identified by Horsley Witten Group, Inc. as occurring extensively throughout the site, particularly south and southeast of the existing structures and pavement. Many of these potential sites would be impacted by the project as currently proposed (see Figure 5.3 of the DEIR and see page 21 of the "Summary of Natural Resources and Rare Species Habitat Assessments" found in Appendix 2 of the ① DEIR). Impacts to potential breeding sites of the Eastern Spadefoot Toad should be eliminated or minimized wherever possible. For example, choosing fenceline and parking expansion alternatives which remove or reduce wetland impacts. The degradation of breeding habitat for this species would be considered a "take" of the Eastern Spadefoot Toad and would require a Conservation and Management Permit from the NHESP (321 CMR 10.23).
- Eastern Box Turtle: Potential habitat for the Eastern Box Turtle has been identified by Horsley Witten Group, Inc. as occurring extensively throughout the site (see Figure 5.3 of the DEIR and see page 21 of the "Summary of Natural Resources and Rare Species Habitat Assessments" found in Appendix 2 of the DEIR). In fact, a female Eastern Box Turtle was discovered on site by NHESP staff during a site visit on June 12, 2007. Because the Eastern Box Turtle is a habitat generalist, much ② of the proposed work has the potential to directly harm Box Turtles during construction activities without appropriate oversight and/or construction conditioning. In addition, the NHESP is concerned about the proposed fenceline impeding normal movements of Box Turtles across the site. The ③ NHESP has suggested to the proponent to include a gap of 6-8 inches at the bottom of the fenceline which would allow turtles to migrate normally onto and off of the site, but would not impact the integrity of the fenceline for security and safety. The proponent should continue to consult with the ④ NHESP to devise appropriate fence designs and construction conditions to avoid impacts to the Eastern Box Turtle.
- Vesper Sparrow: Potential habitat for the Vesper Sparrow is found primarily in the maintained grasslands surrounding the runways (see Figure 5.3 of the DEIR and see page 21 of the "Summary of Natural Resources and Rare Species Habitat Assessments" found in Appendix 2 of the DEIR). Construction activities within this area have the potential to disrupt any Vesper Sparrows nesting in the vicinity. Provided all construction activities in grasslands occur outside the breeding season of the Vesper Sparrow (March 15-August 31), a "take" of the Vesper Sparrow can be avoided. If work ⑤ must occur during this time period, it may be possible to conduct surveys for the Vesper Sparrow between late April and the end of May and begin work in June if no evidence of Vesper Sparrows is found. However, if evidence of Vesper Sparrows is found, no work may occur in the grasslands until after August 31. Based on the information submitted, there may be an overall net gain of grassland habitat, as existing pavement is removed, which may benefit the Vesper Sparrow in the long run.
- Broom Crowberry: Broom Crowberry has been identified on site, however, most project activities will occur outside of the area where the Broom Crowberry has been found (see Figure 5.3 of the DEIR and see page 21 of the "Summary of Natural Resources and Rare Species Habitat Assessments"



⑥ found in Appendix 2 of the DEIR). One fenceline alternative (alternative 2) is likely to impact this population, therefore, alternative 2 would result in a "take" of Broom Crowberry.

⑦ The NHESP has not yet received a formal MESA filing on this project and we continue to be available to consult with the proponent as they develop plans to avoid and minimize potential impacts to state-listed species and their habitats. Once the NHESP receives a complete MESA filing, we will determine whether or not the proposed project will result in the "take" of state-listed rare species. If the project is determined to result in a "take," then it may be possible to redesign the project to avoid a "take." If such revisions are not possible, the applicant should note that projects resulting in a "take" may only be permitted if they meet the performance standards for a "Conservation and Management Permit" under MESA (321 CMR 10.04(3)(b)).

⑧ Regarding the request for permission to proceed with footprint pavement reconstruction, the NHESP is not concerned about the repaving of existing paved areas. However, if there will be impacts to grassland bird habitat (i.e. any access, stockpiling of materials, staging of equipment in grasslands), work should not occur between March 15 and August 31 to avoid impacts to breeding Vesper Sparrows.

We appreciate the opportunity to comment on this project. If you have any questions about this letter, please contact Sarah Haggerty at (508) 389-6367, (sarah.haggerty@state.ma.us).

Sincerely,

Thomas W. French

Thomas W. French, Ph.D.
Assistant Director

cc: Provincetown Municipal Airport
Michael Garrity; Jacobs Edwards and Kelcey
Amy Ball; Horsley Witten Group, Inc.
Michelle Ricci; Federal Aviation Administration
Denise Garcia; Massachusetts Aeronautics Commission
Provincetown Planning Board
Provincetown Board of Selectmen
Provincetown Conservation Commission
DEP Southeast Regional Office, MEPA Coordinator

Response to comments in letter from Division of Fisheries & Wildlife, (NHESP), July 11, 2007.

1. Additional field analyses of Eastern Spadefoot Toad breeding habitat have been conducted in order to better quantify potential effects on the species. Field biologists identified prime and potential breeding habitat for the Eastern Spadefoot Toad. This new information has allowed project alternatives, particularly the fence, to be located away from areas of prime (ideal) habitat. A separate report has been created documenting observations of Eastern Spadefoot Toad habitat, which is provided in Appendix 2.

2. A Construction Management Plan has been developed and a draft is provided in Section 7.5. The Plan includes environmental oversight during construction.

3. The fence will have gaps along the bottom of the fence (per discussions with NHESP) to allow for the movement of box turtles and other small animals. Figure 6.7 provides a detail.

4. Ongoing consultation is planned with NHESP.

5. As discussed throughout the document, construction will be conditioned to avoid a Take of Vesper Sparrow.

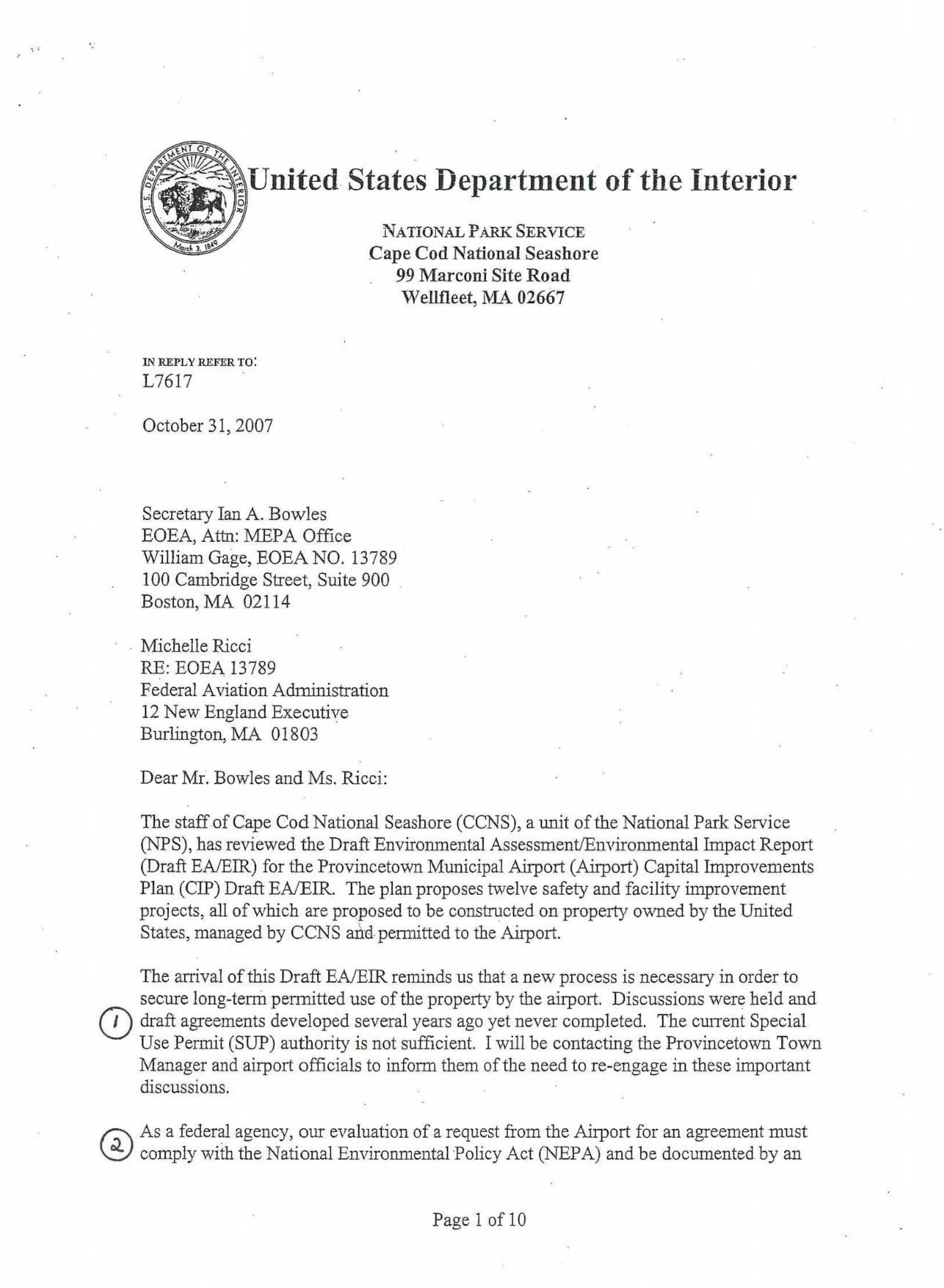
6. The Preferred Alternative for the fence (Concept 6) will not impact Broom Crowberry.

7. The proponent appreciates the consultations with the NHESP Staff and guidance they have provided. Project alternatives and construction activities have been modified to avoid a “Take” of the listed species.

8. The Terminal Apron reconstruction project was issued an Order of Conditions (DEP File No. 058-0440) by the Provincetown Conservation Commission (PCC) and coordination was also carried out with the NHESP. Construction was completed in the fall of 2008, after the summer peak season.

13.3 October 2007 Comment Letter from National Park Service and Responses

This section contains the letter, dated October 31, 2007 from the National Park Service on the NPC/Draft EIR/EA and responses to comments in the letter. The specific comments have been identified by a number in the left hand margin of the certificate. Responses are identified with a corresponding number.



United States Department of the Interior

NATIONAL PARK SERVICE
Cape Cod National Seashore
99 Marconi Site Road
Wellfleet, MA 02667

IN REPLY REFER TO:
L7617

October 31, 2007

Secretary Ian A. Bowles
EOEA, Attn: MEPA Office
William Gage, EOEA NO. 13789
100 Cambridge Street, Suite 900
Boston, MA 02114

Michelle Ricci
RE: EOEA 13789
Federal Aviation Administration
12 New England Executive
Burlington, MA 01803

Dear Mr. Bowles and Ms. Ricci:

The staff of Cape Cod National Seashore (CCNS), a unit of the National Park Service (NPS), has reviewed the Draft Environmental Assessment/Environmental Impact Report (Draft EA/EIR) for the Provincetown Municipal Airport (Airport) Capital Improvements Plan (CIP) Draft EA/EIR. The plan proposes twelve safety and facility improvement projects, all of which are proposed to be constructed on property owned by the United States, managed by CCNS and permitted to the Airport.

① The arrival of this Draft EA/EIR reminds us that a new process is necessary in order to secure long-term permitted use of the property by the airport. Discussions were held and draft agreements developed several years ago yet never completed. The current Special Use Permit (SUP) authority is not sufficient. I will be contacting the Provincetown Town Manager and airport officials to inform them of the need to re-engage in these important discussions.

② As a federal agency, our evaluation of a request from the Airport for an agreement must comply with the National Environmental Policy Act (NEPA) and be documented by an

Environmental Assessment (EA). The Federal Aviation Administration (FAA), also a federal agency, is also required to comply with NEPA, and the Draft EA/EIR indicates this document was prepared in accordance with the FAA's NEPA guidelines in order to meet this requirement. As the Permittee of NPS property, NEPA guidelines which also are in accordance with NPS requirements will be a condition of a new agreement. It was our understanding that a Draft EA/EIR would be constructed to satisfy both the FAA's and CCNS's NEPA obligations; however, this is not the case. We regret this misunderstanding. The comments below are offered to provide initial guidance for revising the current Draft EA/EIR to support CCNS decision-making on a permit or ③ agreement for the Capital Improvement Plan (CIP), and to ensure CCNS compliance with NEPA in accordance with National Park Service guidelines, policies, and requirements.

General Comments:

1. We recommend that the Airport's request for a permit or agreement be accompanied by a proposed schedule for completing NEPA in a manner that satisfies NPS guidelines, policies, and requirements. This schedule should include adequate time for the following steps with the responsible parties noted in parentheses:

④ a. preparation and delivery of an internal draft EA in Microsoft Word plus four hard copies for NPS use (Airport);
⑤ b. review and comment by CCNS, NPS Regional staff, and the Department of Interior (DOI) solicitor (NPS);
⑥ c. development of a distribution list for hard copies of the Final EA (NPS);
⑦ d. preparation and delivery of a 2nd internal draft EA in Microsoft Word incorporating NPS and DOI comments, with a draft press release to accompany anticipated distribution for public review (Airport);
⑧ e. brief review and approval for production and public distribution of the Final EA (NPS);
⑨ f. delivery of a Final EA in pdf format broken into chapters as needed to enable the public to easily download and review from the park web site, and seven hard copies for NPS use (Airport);
⑩ g. distribution of hard copies of the Final EA to the list developed by CCNS (Airport);
⑪ h. delivery of all public and agency comments after the close of the 30-day public comment period (NPS);
⑫ i. preparation and delivery of a report summarizing public and agency comments (Airport);
⑬ j. resolution of any outstanding comments, concerns, or objections from consulting and other permitting agencies (Airport and CCNS);
⑭ k. delivery of an internal draft Finding of No Significant Impact prepared in accordance with NPS guidelines.

⑮ CCNS will review the proposed schedule, and propose any changes necessary to provide the Airport with a realistic timeline given CCNS and Regional NPS staff workload.

2. EAs prepared for the National Park Service are required to specifically address key issues that are not evident in the current Draft EA/EIR. The following sections should be added to the EA prepared for the NPS:

- alternatives considered but rejected;
- identification of the environmentally preferred alternative;
- relationship to other planning efforts; ⑯
- cumulative effects; and
- impairment to park resources.

(See the park planning website at www.parkplanning.nps.gov for several CCNS documents for reference.)

⑰ 3. The revised EA needs to include a chapter similar to Section 8.0 in the current Draft EA/EIR. When revising this section for CCNS, the following should be added:

- Executive Orders 11988 (Floodplain Management) and 11990 (Protection of Wetlands)
- Federal Endangered Species Act
- National Historic Preservation Act of 1966, as Amended
- Archeological Resources Protection Act of 1979
- Clean Air Act, as amended (42 USC 7401 et seq.)
- Americans with Disabilities Act

⑱ DOT Act Section 4(f) review is also required for this CIP so that NPS can determine if approval can be given based on whether 1) there is no prudent and feasible alternative to using that land; and 2) the program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use. Pages 4-2, 5-20, and 6-1 appear to assert that Section 4(f) is not relevant; however we believe that this is not the case. The NPS will need to concur with the Section 4(f) findings and cannot support the summary statement on page 6-17 until we have further discussions in development of the EA for NPS purposes and agree that the conditions above are met. Please change the terminology to clarify that the property is permitted, not leased, as needed in various places.

⑲ 4. The Draft EA/EIR should be revised to address cultural resources, particularly in the Alternatives Analysis, Affected Environment, and Environmental Impacts and Mitigation Measures for Proposed Improvements sections. Please also see specific comments below.

⑳ 5. In general, we found the comments on the Draft EA/EIR provided by the Cape Cod Commission (Cape Cod Commission Staff Report, June 21, 2007) to be thorough and well founded. The Commission comments should be addressed thoroughly addressed in the revised EA. We also concur with the comments from the Massachusetts Audubon Society and believe that the level of analysis is not specific enough in many areas, and more attention to mitigations is needed.

㉑ 6. It should be noted that NPS Management Policies direct parks to " . . . protect and strive to recover all species . . . listed under the Endangered Species Act . . . and manage state and locally listed species in a manner similar to its treatment of federally listed species to the greatest extent possible." Toward this end, determination of effects, appropriate avoidance and minimization measures, and if necessary, mitigation measures relating to state endangered, threatened, and special concern species should be resolved in a manner acceptable to the NPS and the Massachusetts Natural Heritage and Endangered Species Program prior to development of the revised EA.

(22) Similar to the Cape Cod Commission, NPS staff had trouble discerning the difference between FAA standards, requirements or guidelines. The document mentions waivers for some elements, such as tree clearing on page 2-3, and it would be particularly useful to understand which elements of the requirements and guidelines have more flexibility through the possibility of waivers. This is of particular interest for the fencing scheme since Page 2-4 indicates that the fencing is subject to "recommended security guidelines."

ENF Certificate discussion

(23) Page 3, paragraph 4 mentions impacts of the project on the "Hatches Harbor restored earthen berm". There is apparently some confusion about this structure. NPS agreed to construct and maintain this berm to protect the Airport ILS from tide heights above 10 ft-MLLW once tides were restored to Hatches Harbor. It is more appropriate to recommend that the EIR address impacts to the Hatches Harbor salt marsh restoration project itself, not to the berm.

(24) Please note that this berm breached in late 2006, prompting further analysis of whether it is still needed given improvements in the ILS since the tidal restoration project began ten years ago. In spring 2007, CCNS produced water level data showing that the ILS reflectance area is unaffected by high-tide heights, even during storm-tide conditions and even with the berm breached. Therefore, airport management has agreed that repair of this berm is now unnecessary. Please see our letter of July 17, 2007 to the Provincetown Airport Commission for more details.

Purpose and Need

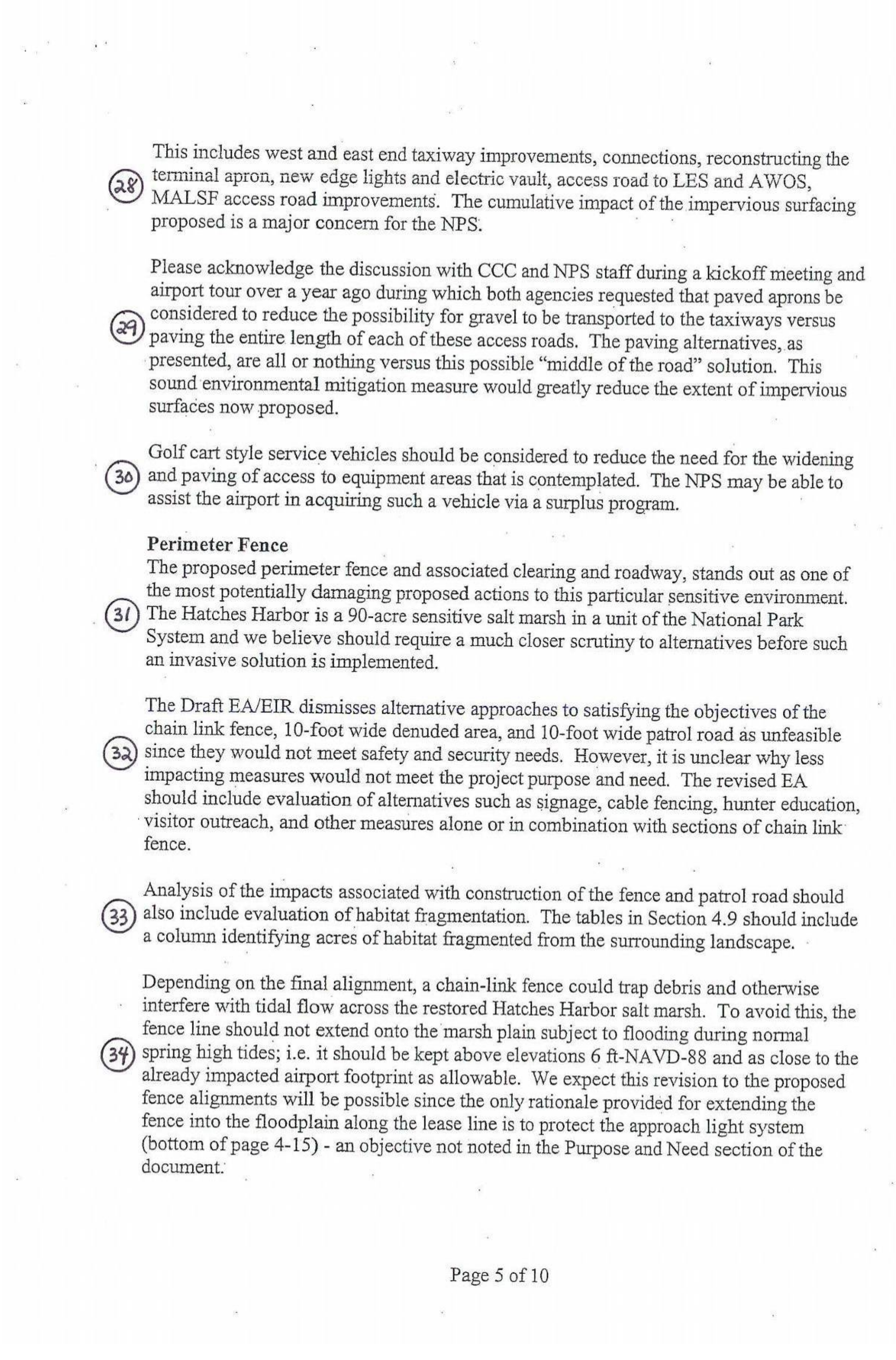
(25) We essentially second each of the Cape Cod Commission's staff report comments on this section of the document.

(26) Please clearly define the 100' wetland buffer area to be disturbed as well as the direct disturbed wetlands. A description of new versus previously disturbed areas would also be useful. (This could be included in the impacts section.)

Clearing Width, Page 2-3

(27) The restoration of tide heights and salinity in Hatches Harbor since the new culverts were installed in 1999 has killed much of the tall woody vegetation that impeded visibility along the airport approach. This process continues, and will likely be hastened by a prescribed burn by CCNS Fire Management staff this fall (2007). The EIS/EIR should consider this development in recommending vegetation removal because, as low salt-marsh grasses replace tall shrubs, it may become unnecessary.

Taxiway and lighting road improvements



㉘ This includes west and east end taxiway improvements, connections, reconstructing the terminal apron, new edge lights and electric vault, access road to LES and AWOS, MALSF access road improvements. The cumulative impact of the impervious surfacing proposed is a major concern for the NPS.

㉙ Please acknowledge the discussion with CCC and NPS staff during a kickoff meeting and airport tour over a year ago during which both agencies requested that paved aprons be considered to reduce the possibility for gravel to be transported to the taxiways versus paving the entire length of each of these access roads. The paving alternatives, as presented, are all or nothing versus this possible "middle of the road" solution. This sound environmental mitigation measure would greatly reduce the extent of impervious surfaces now proposed.

㉚ Golf cart style service vehicles should be considered to reduce the need for the widening and paving of access to equipment areas that is contemplated. The NPS may be able to assist the airport in acquiring such a vehicle via a surplus program.

Perimeter Fence

㉛ The proposed perimeter fence and associated clearing and roadway, stands out as one of the most potentially damaging proposed actions to this particular sensitive environment. The Hatches Harbor is a 90-acre sensitive salt marsh in a unit of the National Park System and we believe should require a much closer scrutiny to alternatives before such an invasive solution is implemented.

㉜ The Draft EA/EIR dismisses alternative approaches to satisfying the objectives of the chain link fence, 10-foot wide denuded area, and 10-foot wide patrol road as unfeasible since they would not meet safety and security needs. However, it is unclear why less impacting measures would not meet the project purpose and need. The revised EA should include evaluation of alternatives such as signage, cable fencing, hunter education, visitor outreach, and other measures alone or in combination with sections of chain link fence.

㉝ Analysis of the impacts associated with construction of the fence and patrol road should also include evaluation of habitat fragmentation. The tables in Section 4.9 should include a column identifying acres of habitat fragmented from the surrounding landscape.

㉞ Depending on the final alignment, a chain-link fence could trap debris and otherwise interfere with tidal flow across the restored Hatches Harbor salt marsh. To avoid this, the fence line should not extend onto the marsh plain subject to flooding during normal spring high tides; i.e. it should be kept above elevations 6 ft-NAVD-88 and as close to the already impacted airport footprint as allowable. We expect this revision to the proposed fence alignments will be possible since the only rationale provided for extending the fence into the floodplain along the lease line is to protect the approach light system (bottom of page 4-15) - an objective not noted in the Purpose and Need section of the document.

(35) Inadvertent transgressions of hikers, horseback riders, hunters etc. onto the runway or taxiway could be avoided by simple signage and perhaps a cable ("symbolic fence") around the airport perimeter, thus avoiding disturbance to water movement, a major visual intrusion in a park natural area, and expense to the airport. Regarding coyotes, it will likely be very difficult to exclude these animals regardless of how the fence is constructed.

(36) Section 3.10 prescribes regular patrolling and removal of debris from the fence to prevent impedance to tidal flow. How often will debris be removed? This seems hardly workable over the long term, i.e. indefinitely, and should be completely avoided by keeping the fence out of the tidal flood plain.

(37) Regardless of the fence alignment, can a fence extend a few inches up from the ground to allow passage of small fauna underneath, e.g. turtles and toads. We concur that coated chain link fence should be considered to reduce reflectivity. Mitigations such as these should be thoroughly explored.

(38) Fence Concept 1 should be identified as an alternative that was considered but rejected.

Affected Environment

Rare species, page 5-7

(39) It can be reasonably assumed that state-listed protected species of box turtles and spadefoot toads occur commonly throughout the project area. Importantly, the dunes landscape around the airport probably has the highest density of spadefoot toads in Massachusetts.

(40) In addition to impacts associated with construction of the fence, associated cleared area, and patrol road, this section should evaluate the potential for direct mortality to migrating spadefoot toads from patrol vehicles, particularly if patrols could occur on rainy nights spring through late summer.

(41) As noted earlier, assessment of impacts resulting from the fence should include habitat loss through exclusion and habitat fragmentation, particularly to sensitive species that will not be able to pass through the fence such as the Eastern box turtle.

Floodplain, section 5.7

(42) The text states that the airport was built on "the filled floodplain behind the dike". This begs the question: how did the flood plain get filled? It would be more forthright to state that portions of the tidal flood plain were filled, after 1930 diking, for construction of the airport.

Wetland Restoration Planting, page 7-3

(43) We strongly object to, and question the need for, the introduction of "organic-rich soils" from elsewhere for wetland plantings. If final land-surface elevations are within 1 foot of groundwater during the growing season, as is the plan, native wetland species will

establish without the addition of organic matter. In addition, obtaining "weed-free" material seems highly unlikely. Park staff has personal experience with a number of recent projects with poor results attempting to use "weed-free" material. Two projects have required a total resurfacing. We would have no expectation that such material would be satisfactory in this sensitive environment.)

Cultural Resources sections

㊹ In Appendix 2, 2.1 "cultural grassland" is discussed and this is included on maps. We have never heard of the term used this way but instead see it used related in cultural terms to the heathland goals of the park, i.e. of having an open landscape for the public to experience. We recommend substitution with a term such as "maintained grassland" or "maintained landscape" to be more accurate.

㊺ Section 3.0: NPS suggests that the 1940s (possibly older) sightseeing shack, which was
likely the original administration building for the airport, be evaluated for historical
significance and to determine if it has integrity because this improvement could be
㊻ technically construed as in federal ownership on the permitted land. If NPS doesn't own
it, it should still be formally evaluated as it is over 50 years old.

㊼ In 5.12 Historical/Archeological, add the Dune Shacks of the Peaked Hill Bars Historic District to language to recognize that the district is in the vicinity of the airport facility.

Sections 5.12 Historical and Archaeological

㊽ This section could be modified to include that although Pre-Contact period sites have not been reported within the area of the PMA, there are Native American archeological sites of that period in the former Province Lands and Pilgrim Springs areas, near Pilgrim Lake in Truro.

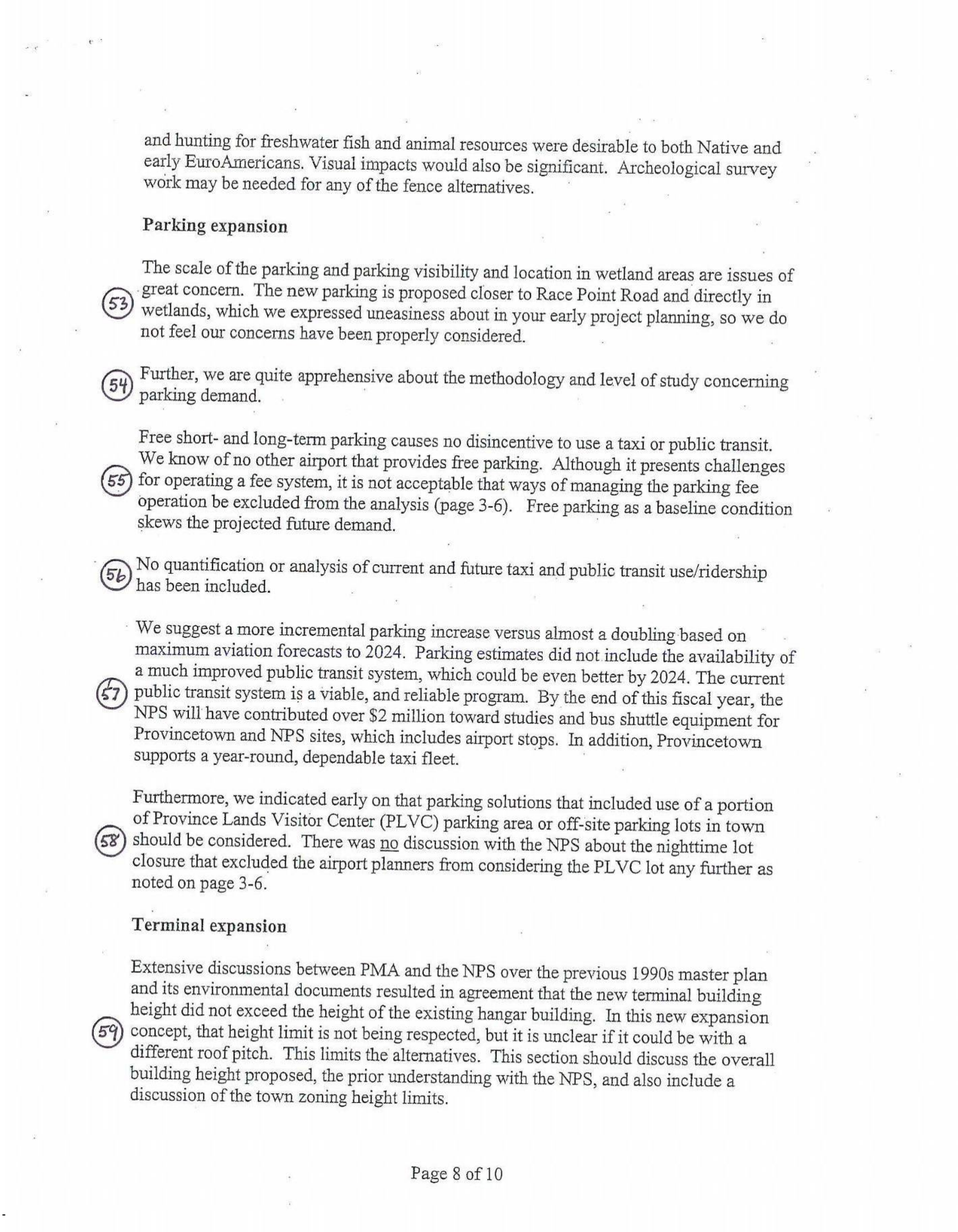
㊾ While the shifting of sand toward and around the toe of Cape Cod was occurring in late prehistory, it is likely that hunting and fishing were carried on by native peoples around the wetlands formed in the new lands next to the highlands of the Cape.

㊿ In addition to the historical resources noted in this section, one could add the Race Point Bathhouse of 1953, as a first building for this use in the State of Massachusetts, may be a building of architectural worth and merits further study.

(51) There is an interesting discussion in 5.10 on noise and 5.8 on visuals as they relate to the Province Lands Visitor Center view towards the airport. We did not read anything that would cause alarm on either of these issues. However, the visual impact section in 6.7 is too general to be useful.

Section 8.0 National Historic Preservation Act should be referenced in this section.

(52) Cultural/Archeology issues with the Fence Concepts - If Lease Line Fence is accepted, that of complete fencing, then much more archeology will be necessary, as wetland areas



and hunting for freshwater fish and animal resources were desirable to both Native and early EuroAmericans. Visual impacts would also be significant. Archeological survey work may be needed for any of the fence alternatives.

Parking expansion

(53) The scale of the parking and parking visibility and location in wetland areas are issues of great concern. The new parking is proposed closer to Race Point Road and directly in wetlands, which we expressed uneasiness about in your early project planning, so we do not feel our concerns have been properly considered.

(54) Further, we are quite apprehensive about the methodology and level of study concerning parking demand.

(55) Free short- and long-term parking causes no disincentive to use a taxi or public transit. We know of no other airport that provides free parking. Although it presents challenges for operating a fee system, it is not acceptable that ways of managing the parking fee operation be excluded from the analysis (page 3-6). Free parking as a baseline condition skews the projected future demand.

(56) No quantification or analysis of current and future taxi and public transit use/ridership has been included.

(57) We suggest a more incremental parking increase versus almost a doubling based on maximum aviation forecasts to 2024. Parking estimates did not include the availability of a much improved public transit system, which could be even better by 2024. The current public transit system is a viable, and reliable program. By the end of this fiscal year, the NPS will have contributed over $2 million toward studies and bus shuttle equipment for Provincetown and NPS sites, which includes airport stops. In addition, Provincetown supports a year-round, dependable taxi fleet.

(58) Furthermore, we indicated early on that parking solutions that included use of a portion of Province Lands Visitor Center (PLVC) parking area or off-site parking lots in town should be considered. There was no discussion with the NPS about the nighttime lot closure that excluded the airport planners from considering the PLVC lot any further as noted on page 3-6.

Terminal expansion

(59) Extensive discussions between PMA and the NPS over the previous 1990s master plan and its environmental documents resulted in agreement that the new terminal building height did not exceed the height of the existing hangar building. In this new expansion concept, that height limit is not being respected, but it is unclear if it could be with a different roof pitch. This limits the alternatives. This section should discuss the overall building height proposed, the prior understanding with the NPS, and also include a discussion of the town zoning height limits.

(60) The TSA trailer should not be relocated to the parking lot, reducing the available parking, and causing other problems for the proposed improvements. The picnic area could much more easily be relocated. The site plan does not indicate why the trailer would need to be relocated due to the horizontal expansion alternative.

Alternatives Analysis and Environmental Impacts sections

These comments on alternatives and impacts are in addition to comments in other sections of this letter that span the chapters of the environmental document.

(61) As depicted in Table 4-1, environmental categories should not exclude:
DOT Act Section 4(f)
Floodplains
Historic, Architectural, Archeological, and Cultural Resources
Traffic

(62) Topics identified above under Alternatives Analysis will need to be included in Chapter 6 environmental impact discussions to satisfy the NPS NEPA compliance needs.

(63) A summary of each alternative of all twelve proposed projects and their impacts on the wetland buffer area and wetlands is needed to inform the reader of the cumulative impacts on protected wetland areas.

(64) For the Fence impact analysis, please identify that the cross-runway from the original airport layout has not been constructed and is not projected to be needed in any of the airport master planning documents. Identifying the percentage of the airport permitted (65) area proposed to be fenced is irrelevant once this fact is presented. There is no discussion of why FAA design standards would not be met for concept 2, so it should not be (66) precluded from further analysis; this more practical approach based on the sensitive environment of the airport should be fully considered.

(67) In Section 6.1 traffic is not quantified and only subjective comments are made. Of more concern is the extremely limited parking data from one day in August 2006. The data collected is not discussed, and the reader is to assume that the reference to the ITE manual is sufficient to justify the forecasting of parking demand used. The lack of analysis does not justify the proposed parking expansion. Also see concerns expressed earlier in this letter concerning other means of getting to the airport and the impact of free parking to further inform your discussion on projections of parking, taxi and transit use and mitigations. The parking mitigation discussion on page 6-3 does not support a defendable position.

Compliance and consultation

(68) We did not see a discussion of interagency involvement in Section 10.1 or inclusion of the notes from the site visit associated with the kickoff meeting and tour, but perhaps we overlooked them. If they are not there, we believe that they should be included.

(69) The Stormwater Pollution Prevention Plan and the Spill Prevention Control and Countermeasures Plan appear complete. Will the final plans signed by the engineers be included in the FEIR/EA?

Conclusion

In closing, we would like to work with the planning and compliance team in improving this document to satisfy our agency's concerns and NEPA and NHPA compliance issues. We can be contacted at any time to begin that effort.

Sincerely,

George E. Price, Jr.
Superintendent

cc:
Provincetown Municipal Airport Commission
Cape Cod Commission
Massachusetts Audubon Society
Massachusetts Natural Heritage and Endangered Species Program
Massachusetts Historical Commission
Town Manager, Town of Provincetown

Response to comments in letter from United States Department of the Interior, (NPS, CCNS), October 31, 2007.

1. The Airport Commission and other Town officials are conducting the discussions with NPS relative to the issue of the Special Use Permit.

2. The Airport Commission is working with the NPS staff to prepare the Final EA/EIR so that it complies with NPS and FAA NEPA requirements. A 1st Internal Draft was prepared for review in September 2008. A 2nd Internal Draft was submitted in January 2009.

3. A follow-up meeting was held with NPS staff on March 21, 2008 to discuss NEPA compliance and a schedule to complete the document. The minutes of the meeting are provided in Section 10.1.

4. The 1st Internal Draft was submitted to NPS on September 26, 2008.

5. Comments on the 1st Internal Draft were provided by NPS in a letter dated December 15, 2008, included in Section 13.5.

6. A distribution list will be developed by NPS.

7. A 2nd Internal Draft, submitted in January 2009, responds to NPS and DOI comments. A draft press release will be prepared and submitted to NPS.

8. Comments on the 2nd Internal Draft were reviewed and incorporated into the Final EA/EIR document.

9. The Final EA/EIR document will be delivered in PDF format.

10. The Final EA will be distributed to the NPS distribution list when it is available.

11. To be completed during MEPA review.

12. To be completed after MEPA review.

13. To be completed after MEPA review.

14. To be completed after resolution of any outstanding issues.

15. A schedule was submitted to NPS.

16. Revisions and additions were made to the document to reflect the requirements as listed.

17. Section 8 has been revised to incorporate the items as listed.

18. A 4(f) Evaluation has been prepared and is included in Section 9.

19. The MHC has made a determination regarding historical resources at the Airport. All correspondence has been sent to NPS and is included in Section 10.1. Impacts to cultural resources are not anticipated. Section 1 has been revised, and includes additional discussion.

20. Additional analysis has been completed. All comments by the CCC and Mass Audubon have been carefully reviewed.

21. Coordination has been carried out with NHESP and NPS regarding state-listed species. Additional fieldwork has been completed and has been incorporated into Sections 3, 5, and 6 and Appendix 2. Minutes of the coordination meeting(s) are included in Section 10.1.

22. Section 2, Purpose and Need, has been revised and expanded to provide additional information on FAA, TSA and MassDOT Aeronautics regulations. The FAA publishes documents known as Advisory Circulars (AC) and Orders, which while not regulations, provide accepted operational safety design standards to meet responsibilities pursuant to the regulations. The use of these standards is mandatory for airport projects receiving Federal grant-in-aid assistance. AIP funded projects are required to comply with certain FAA Advisory Circulars (AC).

    The specific design standards that apply to each project are identified in Section 2.1. Table 2.1 lists all the regulations that pertain to the projects. The applicable portions of the referenced documents are provided in Appendix 6. Table 2.2 summarizes which elements have been proposed in response to safety and security requirements and which are capacity projects.

23. Potential impacts to Hatches Harbor have been eliminated with the new Concept 6 fence alignment.

24. This issue is being resolved by the NPS and Airport Commission and staff.

25. Please see response to comment #22.

26. Several of the CIP projects will result in alterations within the 100-foot Buffer Zone of one or more wetland areas. In general, the existing buffer zone composition consists of one or more of the following: unaltered coastal dune, managed/Cultural Grasslands, impervious surfaces (buildings, pavement), or in some cases, where wetland areas are in close proximity to each other, the Buffer Zone to one wetland may encompass one or more of the adjacent wetlands.

27. Although restoration of tide heights and salinity in Hatches Harbor is changing the vegetation, the area within the ILS critical area must be managed per FAA standards.

28. Overall, there will be a net decrease in impervious surface at the Airport. This is discussed in more detail in Section 5.

29. The proposed access roads will be paved for the first 300 feet only.

30. The alternative that would have FAA personnel transfer their equipment to an all-terrain utility vehicle (such as a golf cart) small enough to eliminate the need to back down the access road has been evaluated in Section 3 of the FEIR/EA.

    The utility vehicle alternative has been deemed unfeasible because FAA personnel need access to all equipment in their vehicles during all weather conditions and cannot feasibly transfer all the equipment to a small utility vehicle.

31. Concept 6 eliminates fencing at the west end around the ILS.

To address safety issues relative to the unfenced area around the ILS, which is within the permitted hunting area at the CCNS, the NPS will be asked to help develop a cooperative program of education and signage to assure that hunters and other visitors to the CCNS do not enter the airfield by way of ILS area. The effectiveness of the fence to deter deer will need to be evaluated after construction.

32. Fence Concept 6 eliminates patrol roads. Hunters are not deterred by the current signage and information in the hunting pamphlets distributed by the NPS. A unauthorized deer blind was constructed adjacent to the runway.

33. Habitat fragmentation has been minimized with design details such as the gaps in the fence and location of the fence alignment. The information regarding acres enclosed within the various perimeter fence alignments has been provided in Section 3.

34. The new fence alignment will not interfere with water movement and will not be visible from most of the public vantage points.

35. A symbolic fence would not address the deer issue and those who would ignore such signage.

36. The new alignment eliminates the fence within the area of tidal flow.

37. Gaps will be installed in the fence as shown in Figure 6.7 in Section 6.

38. Fence Concept 1 has been identified as an alternative that was considered but dismissed from further review.

39. The Project Team observed an individual female Eastern Box Turtle at the Airport. Eastern Spadefoot Toad potential breeding habitat has been identified as discussed in Section 5 and Appendix 2.

40. The preferred alignment for the fence does not include patrol roads, thus eliminating the potential for direct mortality to migrating toads. Strategic timing of construction activities will also help to avoid direct and indirect impacts to rare species. Additionally, a Construction Management Plan would be implemented to avoid impacts to Vesper Sparrows and other species as discussed in Section 7.

41. The fence has been designed to allow for passage of species such as the Eastern Box Turtle, as shown in the detail on Figure 6.7 in Section 6.

42. In the past, the value of wetlands was not understood or recognized. Extensive areas of wetland were frequently filled for highways and airports.

43. The wetland planting details have been revised and do not include the addition of organic matter. Additional information and plant lists are provided in Section 7.1.

44. Impacts to Cultural Grasslands are identified as impacts to the human-created grassland that occurs at the Airport adjacent to the taxiway system and runway. These areas are mowed frequently to maintain aviation safety areas and navigational surfaces. The term "Cultural Grassland" is applied by the Massachusetts Division of Fisheries & Wildlife, to describe a "*human-created and maintained open community dominated by grasses, normally maintained by mowing.*" This community often occurs at airfields and is "*a grassland community that generally occurs on sand or other droughty, low-nutrient soils*." In general, the mowed grass communities observed at the Airport that meet these criteria are dominated by various grass and herbaceous species that are mowed an average of three to four times annually.

45. The MHC has made a determination that the CIP projects are unlikely to affect significant historic or archaeological resources. All related correspondence is provided in Section 10.1. The CCNS concurs with MHC that no historic structures are present in the immediate area of potential effect. The CCNS park archaeologist has determined that no archaeological testing is necessary for the fence or taxiway lights project. Agency correspondence is included in Section 10. NPS comments letters are provided in Section 13.

46. It is our understanding that the building is owned by the Town of Provincetown.

47. The referenced language has been added.

48. The referenced language has been added.

49. The referenced language has been added.

50. The referenced language has been added.

51. The visual impact discussion in Section 5 has been revised and reflects the preferred alternatives for the projects with potential to impact the visual environment.

52. The Lease Line alternative (Concept 1) for the fence has been dismissed from further review. It is not anticipated that the preferred alternative (Concept 6) for the fence will impact archaeological resources since it is within the developed airfield area.

53. A new concept has been developed for the parking lot, which avoids wetlands and would be built in phases. Landscaping is proposed to shield the view of the lot.

54. Supplemental parking data has been collected. This supplemental parking memo is provided in Appendix 4.2. The supplemental parking memo includes data collected during July 2008.

55. It is the desire of the Airport Commission to not have paid parking because it is not economically feasible to operate a paid parking lot. The Airport would enforce the parking with ticketing.

56. The supplemental parking study includes interviews with cab service and rental car agency personnel. The Airport encourages the use of taxi and public transit service.

57. Since the Draft EA/EIR, a new concept for the parking lot has been developed and includes phased construction. Phase 1 will provide 28 additional spaces, an increase of 45 percent, rather than 100 percent. Building the project in phases will address the immediate existing need for additional parking and will include efforts to encourage use of the shuttle and taxis. Phase 2 would go forward after additional parking studies have been completed and approved by NPS.

58. Shared parking could be explored with staff of NPS, but the cost of a shuttle service between a NPS lot and the Airport would be prohibitive.

59. The Airport Commission coordinated with NPS during planning for the current Terminal building. The Commission agreed to revise the exterior design of the building to eliminate a cupola and not exceed the height of the hangar. The Airport Commission is not aware of a long term agreement to limit the height of any future terminal building design. To

accommodate a second floor, the height of the Preferred Alternative at this stage of conceptual design is approximately 10 feet above the hangar.

60. The TSA trailer will not be moved to the parking lot. The vertical expansion of the Terminal building will not require relocation of other facilities since it will remain in the existing footprint.

61. The discussion of environmental categories has been revised.

62. The document has been revised.

63. Sections have been revised. Table 5.3 in Section 5 provides a summary of impacts for preferred alternative of all of the CIP projects that provides information of the cumulative impacts on wetlands and other resources.

64. The cross runway was one of the two original grass runways constructed for the Airport. It has not been maintained since the primary runway was paved. It is not shown on the current airport layout plan and was not considered during preparation of the 2005 Master Plan.

65. The use of a percentage has been eliminated. Information on the number of acres within each fence alternative has been provided.

66. A modification of Concept 2 (Concept 6) has been developed and has been identified as the Preferred Alternative.

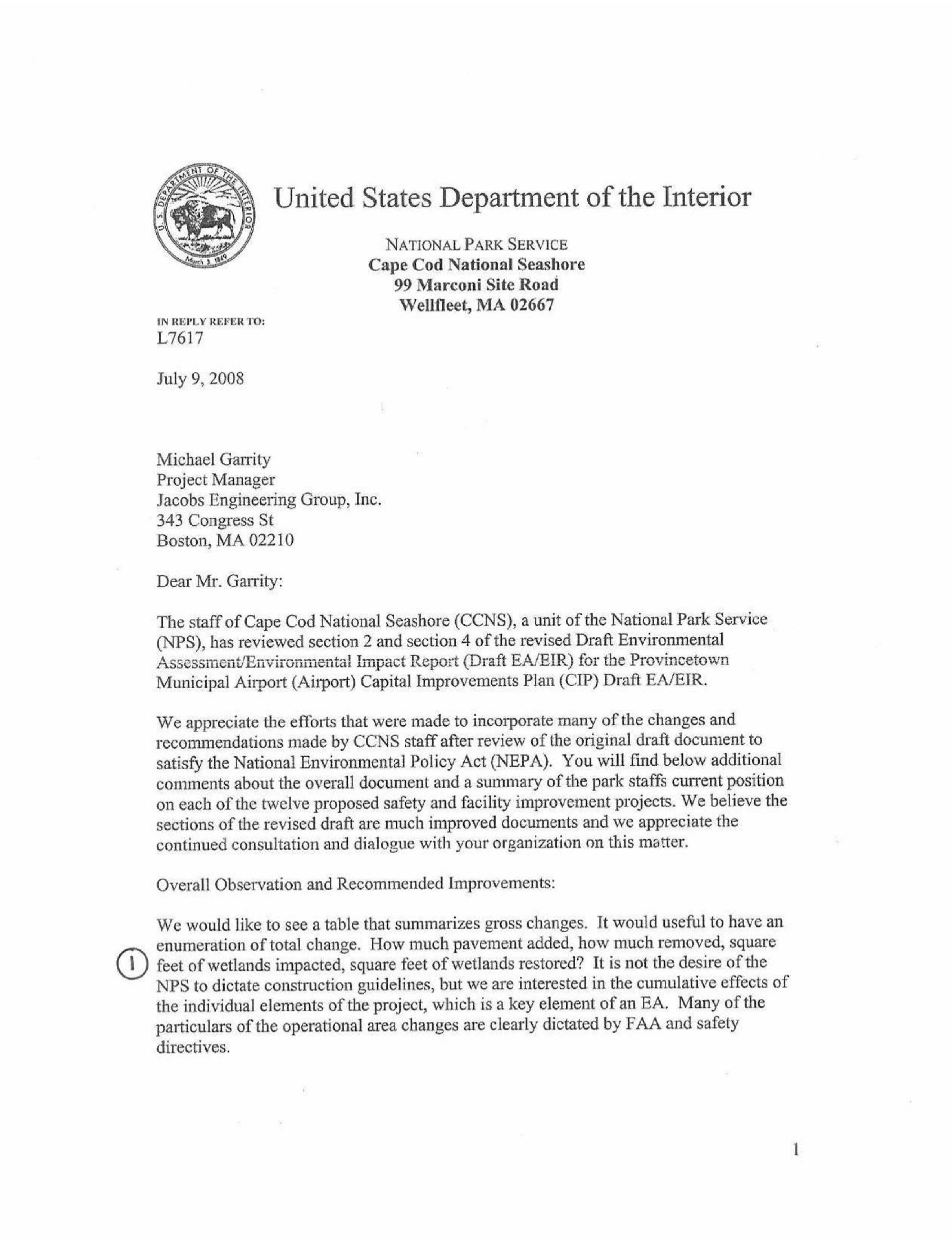
67. Additional parking demand data has been collected. The supplemental parking memo is provided in Appendix 4.2.

68. The interagency meeting referenced in the comment was part of the Master Plan coordination. Minutes from that meeting have been included in Section 10.1

69. The plan with signatures is provided in the Appendix.

13.4 July 2008 Comment Letter from National Park Service and Responses

This section contains the letter, dated July 9, 2008, received from the National Park Service on revised Sections 2 and 4 (Section 4 is now Sections 3 and 5 in the FEIR/EA) of the document and responses to comments in the letter. The specific comments have been identified by a number in the left hand margin of the certificate. Responses are identified with a corresponding number.



United States Department of the Interior

NATIONAL PARK SERVICE
Cape Cod National Seashore
99 Marconi Site Road
Wellfleet, MA 02667

IN REPLY REFER TO:
L7617

July 9, 2008

Michael Garrity
Project Manager
Jacobs Engineering Group, Inc.
343 Congress St
Boston, MA 02210

Dear Mr. Garrity:

The staff of Cape Cod National Seashore (CCNS), a unit of the National Park Service (NPS), has reviewed section 2 and section 4 of the revised Draft Environmental Assessment/Environmental Impact Report (Draft EA/EIR) for the Provincetown Municipal Airport (Airport) Capital Improvements Plan (CIP) Draft EA/EIR.

We appreciate the efforts that were made to incorporate many of the changes and recommendations made by CCNS staff after review of the original draft document to satisfy the National Environmental Policy Act (NEPA). You will find below additional comments about the overall document and a summary of the park staffs current position on each of the twelve proposed safety and facility improvement projects. We believe the sections of the revised draft are much improved documents and we appreciate the continued consultation and dialogue with your organization on this matter.

Overall Observation and Recommended Improvements:

① We would like to see a table that summarizes gross changes. It would useful to have an enumeration of total change. How much pavement added, how much removed, square feet of wetlands impacted, square feet of wetlands restored? It is not the desire of the NPS to dictate construction guidelines, but we are interested in the cumulative effects of the individual elements of the project, which is a key element of an EA. Many of the particulars of the operational area changes are clearly dictated by FAA and safety directives.

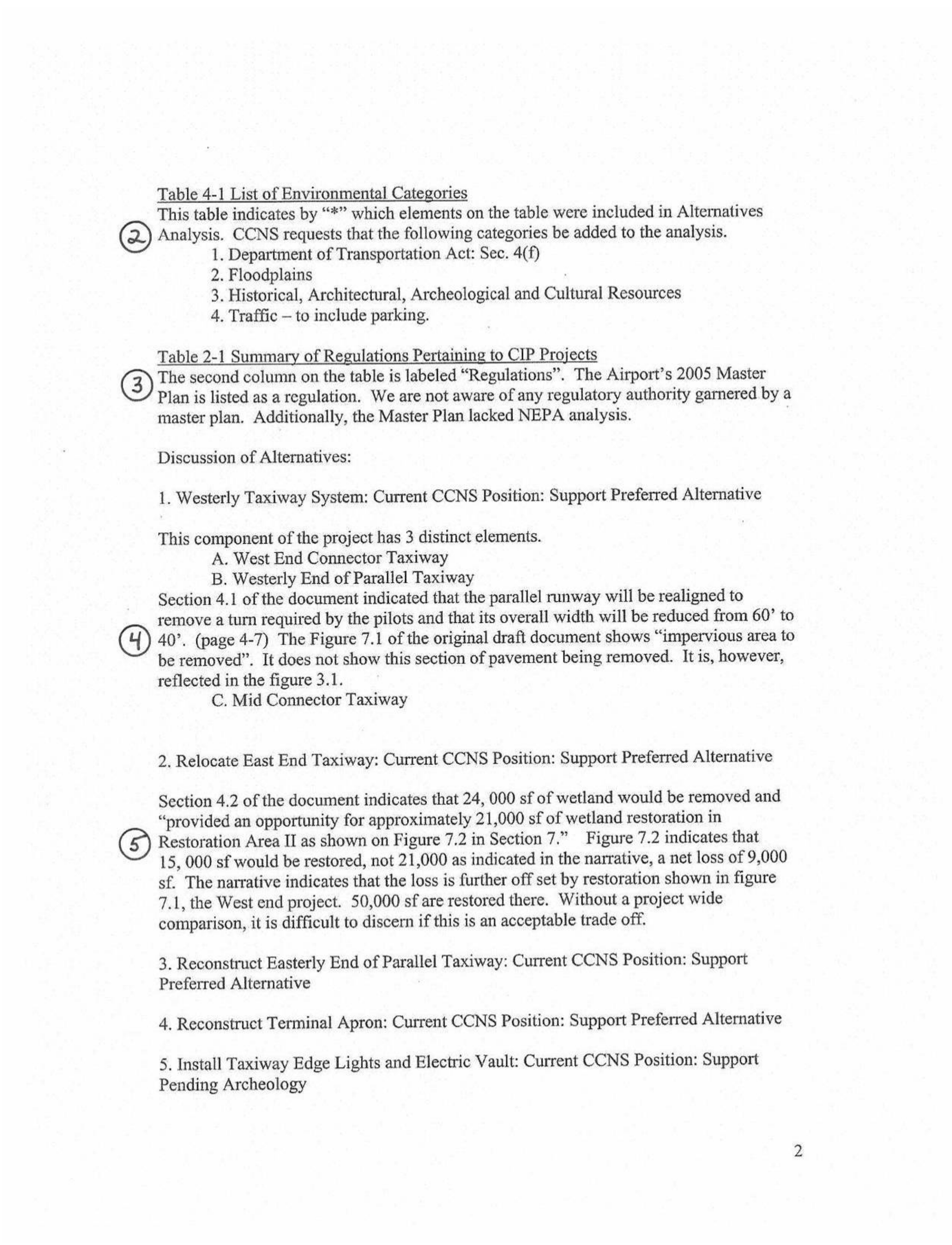


Table 4-1 List of Environmental Categories

This table indicates by "*" which elements on the table were included in Alternatives ② Analysis. CCNS requests that the following categories be added to the analysis.

1. Department of Transportation Act: Sec. 4(f)
2. Floodplains
3. Historical, Architectural, Archeological and Cultural Resources
4. Traffic – to include parking.

Table 2-1 Summary of Regulations Pertaining to CIP Projects

③ The second column on the table is labeled "Regulations". The Airport's 2005 Master Plan is listed as a regulation. We are not aware of any regulatory authority garnered by a master plan. Additionally, the Master Plan lacked NEPA analysis.

Discussion of Alternatives:

1. Westerly Taxiway System: Current CCNS Position: Support Preferred Alternative

This component of the project has 3 distinct elements.

A. West End Connector Taxiway
B. Westerly End of Parallel Taxiway

Section 4.1 of the document indicated that the parallel runway will be realigned to remove a turn required by the pilots and that its overall width will be reduced from 60' to ④ 40'. (page 4-7) The Figure 7.1 of the original draft document shows "impervious area to be removed". It does not show this section of pavement being removed. It is, however, reflected in the figure 3.1.

C. Mid Connector Taxiway

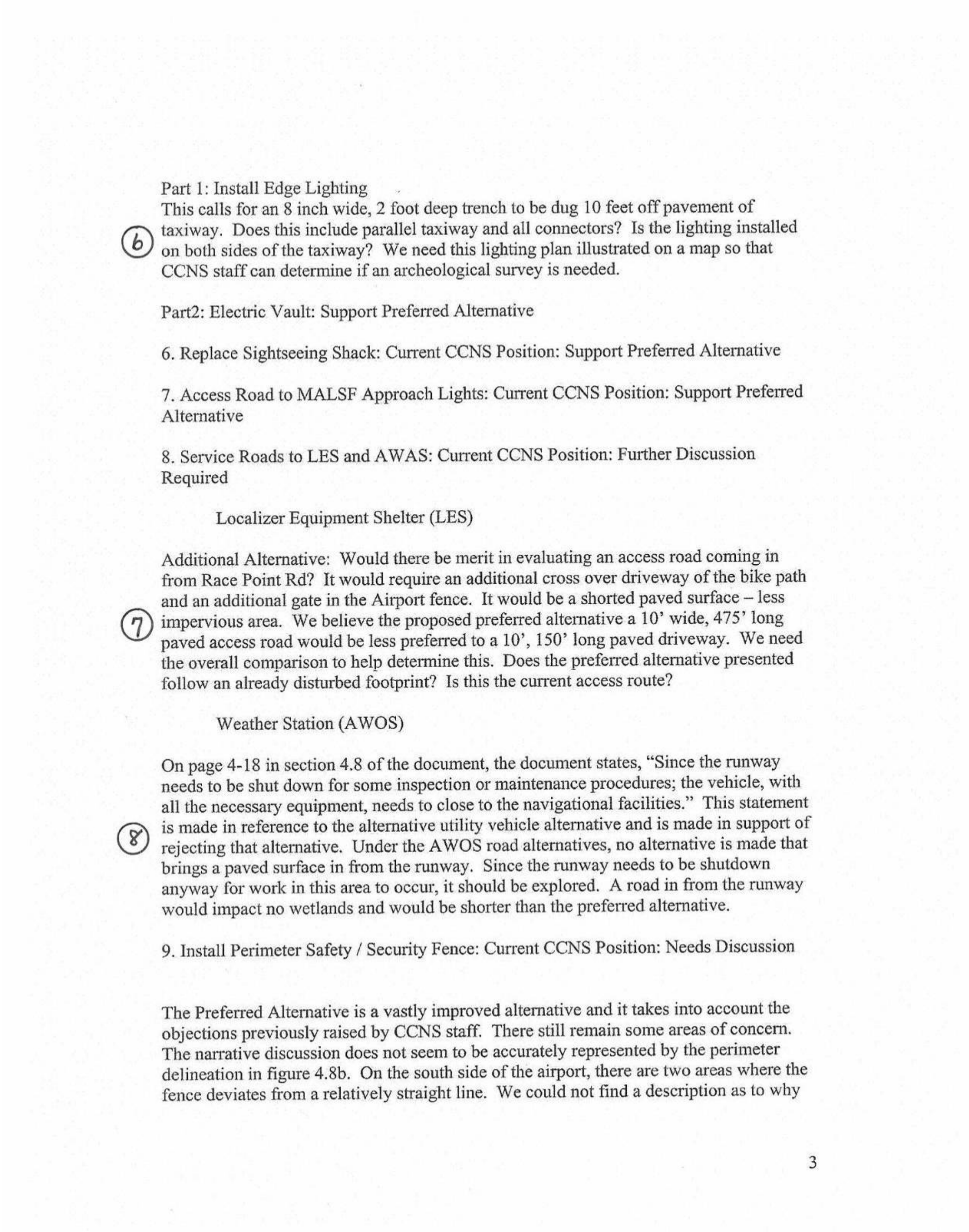
2. Relocate East End Taxiway: Current CCNS Position: Support Preferred Alternative

Section 4.2 of the document indicates that 24, 000 sf of wetland would be removed and "provided an opportunity for approximately 21,000 sf of wetland restoration in ⑤ Restoration Area II as shown on Figure 7.2 in Section 7." Figure 7.2 indicates that 15, 000 sf would be restored, not 21,000 as indicated in the narrative, a net loss of 9,000 sf. The narrative indicates that the loss is further off set by restoration shown in figure 7.1, the West end project. 50,000 sf are restored there. Without a project wide comparison, it is difficult to discern if this is an acceptable trade off.

3. Reconstruct Easterly End of Parallel Taxiway: Current CCNS Position: Support Preferred Alternative

4. Reconstruct Terminal Apron: Current CCNS Position: Support Preferred Alternative

5. Install Taxiway Edge Lights and Electric Vault: Current CCNS Position: Support Pending Archeology



Part 1: Install Edge Lighting
⑥ This calls for an 8 inch wide, 2 foot deep trench to be dug 10 feet off pavement of taxiway. Does this include parallel taxiway and all connectors? Is the lighting installed on both sides of the taxiway? We need this lighting plan illustrated on a map so that CCNS staff can determine if an archeological survey is needed.

Part2: Electric Vault: Support Preferred Alternative

6. Replace Sightseeing Shack: Current CCNS Position: Support Preferred Alternative

7. Access Road to MALSF Approach Lights: Current CCNS Position: Support Preferred Alternative

8. Service Roads to LES and AWAS: Current CCNS Position: Further Discussion Required

Localizer Equipment Shelter (LES)

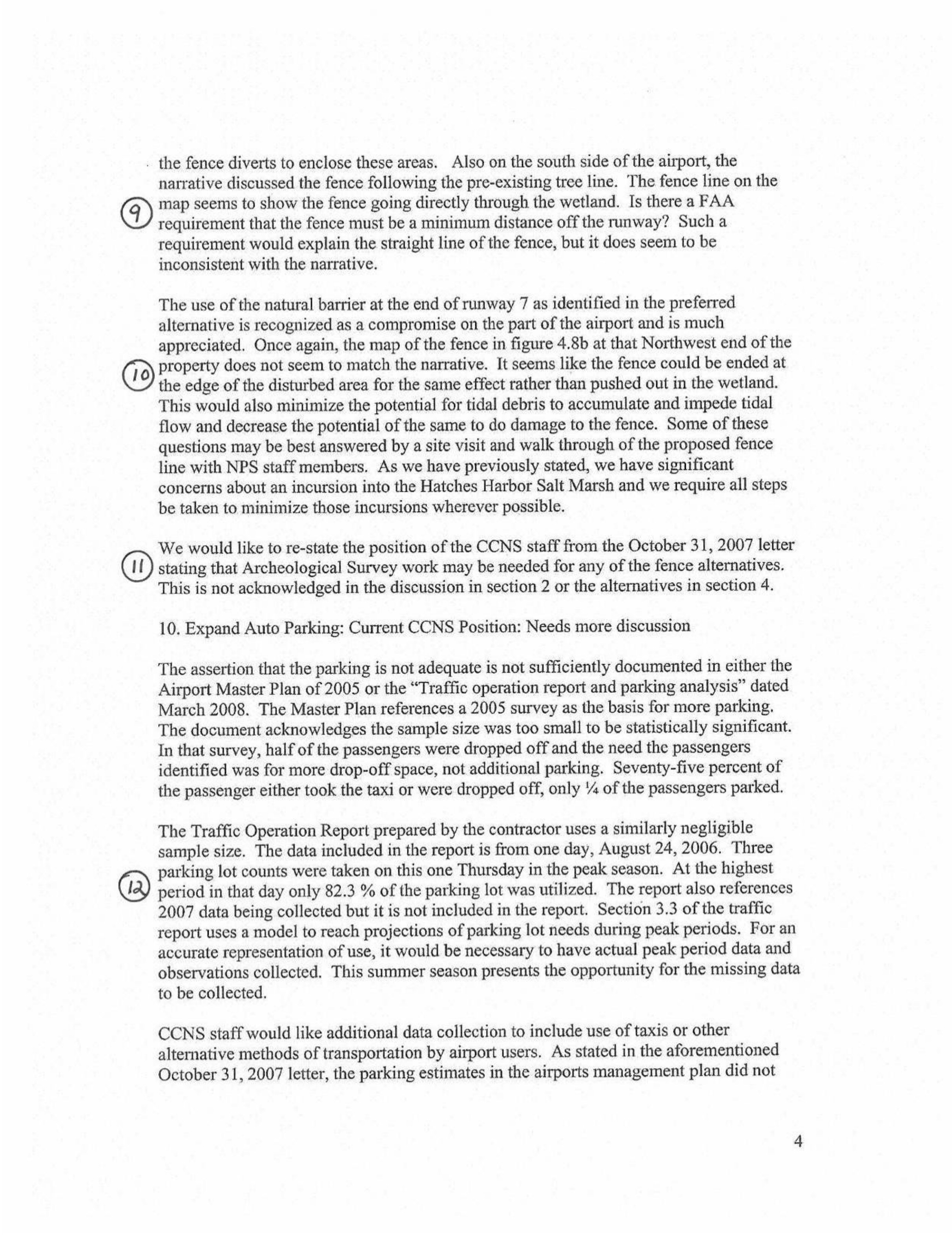
⑦ Additional Alternative: Would there be merit in evaluating an access road coming in from Race Point Rd? It would require an additional cross over driveway of the bike path and an additional gate in the Airport fence. It would be a shorted paved surface – less impervious area. We believe the proposed preferred alternative a 10' wide, 475' long paved access road would be less preferred to a 10', 150' long paved driveway. We need the overall comparison to help determine this. Does the preferred alternative presented follow an already disturbed footprint? Is this the current access route?

Weather Station (AWOS)

⑧ On page 4-18 in section 4.8 of the document, the document states, "Since the runway needs to be shut down for some inspection or maintenance procedures; the vehicle, with all the necessary equipment, needs to close to the navigational facilities." This statement is made in reference to the alternative utility vehicle alternative and is made in support of rejecting that alternative. Under the AWOS road alternatives, no alternative is made that brings a paved surface in from the runway. Since the runway needs to be shutdown anyway for work in this area to occur, it should be explored. A road in from the runway would impact no wetlands and would be shorter than the preferred alternative.

9. Install Perimeter Safety / Security Fence: Current CCNS Position: Needs Discussion

The Preferred Alternative is a vastly improved alternative and it takes into account the objections previously raised by CCNS staff. There still remain some areas of concern. The narrative discussion does not seem to be accurately represented by the perimeter delineation in figure 4.8b. On the south side of the airport, there are two areas where the fence deviates from a relatively straight line. We could not find a description as to why



⑨ the fence diverts to enclose these areas. Also on the south side of the airport, the narrative discussed the fence following the pre-existing tree line. The fence line on the map seems to show the fence going directly through the wetland. Is there a FAA requirement that the fence must be a minimum distance off the runway? Such a requirement would explain the straight line of the fence, but it does seem to be inconsistent with the narrative.

⑩ The use of the natural barrier at the end of runway 7 as identified in the preferred alternative is recognized as a compromise on the part of the airport and is much appreciated. Once again, the map of the fence in figure 4.8b at that Northwest end of the property does not seem to match the narrative. It seems like the fence could be ended at the edge of the disturbed area for the same effect rather than pushed out in the wetland. This would also minimize the potential for tidal debris to accumulate and impede tidal flow and decrease the potential of the same to do damage to the fence. Some of these questions may be best answered by a site visit and walk through of the proposed fence line with NPS staff members. As we have previously stated, we have significant concerns about an incursion into the Hatches Harbor Salt Marsh and we require all steps be taken to minimize those incursions wherever possible.

⑪ We would like to re-state the position of the CCNS staff from the October 31, 2007 letter stating that Archeological Survey work may be needed for any of the fence alternatives. This is not acknowledged in the discussion in section 2 or the alternatives in section 4.

10. Expand Auto Parking: Current CCNS Position: Needs more discussion

The assertion that the parking is not adequate is not sufficiently documented in either the Airport Master Plan of 2005 or the "Traffic operation report and parking analysis" dated March 2008. The Master Plan references a 2005 survey as the basis for more parking. The document acknowledges the sample size was too small to be statistically significant. In that survey, half of the passengers were dropped off and the need the passengers identified was for more drop-off space, not additional parking. Seventy-five percent of the passenger either took the taxi or were dropped off, only ¼ of the passengers parked.

⑫ The Traffic Operation Report prepared by the contractor uses a similarly negligible sample size. The data included in the report is from one day, August 24, 2006. Three parking lot counts were taken on this one Thursday in the peak season. At the highest period in that day only 82.3 % of the parking lot was utilized. The report also references 2007 data being collected but it is not included in the report. Section 3.3 of the traffic report uses a model to reach projections of parking lot needs during peak periods. For an accurate representation of use, it would be necessary to have actual peak period data and observations collected. This summer season presents the opportunity for the missing data to be collected.

CCNS staff would like additional data collection to include use of taxis or other alternative methods of transportation by airport users. As stated in the aforementioned October 31, 2007 letter, the parking estimates in the airports management plan did not

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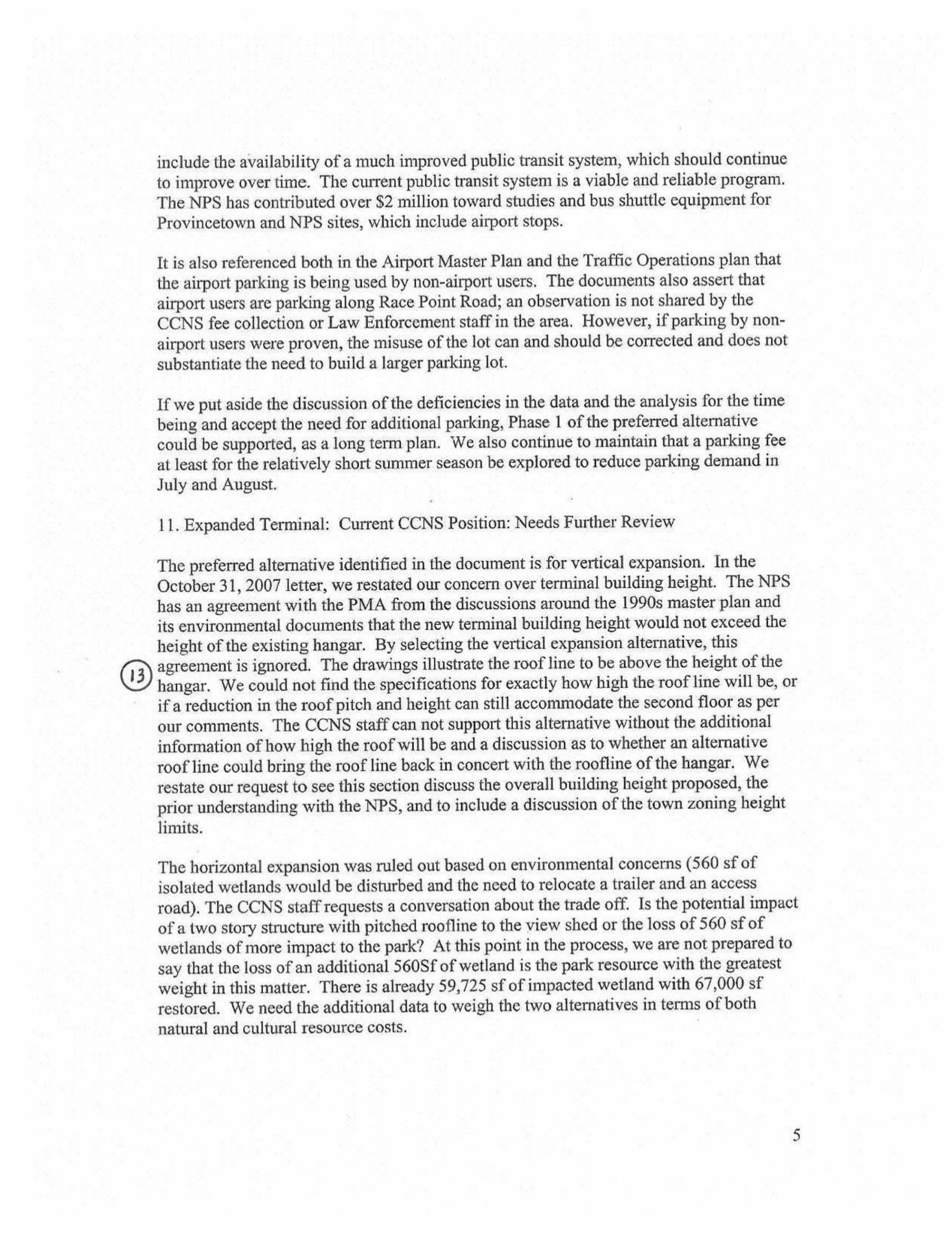


include the availability of a much improved public transit system, which should continue to improve over time. The current public transit system is a viable and reliable program. The NPS has contributed over $2 million toward studies and bus shuttle equipment for Provincetown and NPS sites, which include airport stops.

It is also referenced both in the Airport Master Plan and the Traffic Operations plan that the airport parking is being used by non-airport users. The documents also assert that airport users are parking along Race Point Road; an observation is not shared by the CCNS fee collection or Law Enforcement staff in the area. However, if parking by non-airport users were proven, the misuse of the lot can and should be corrected and does not substantiate the need to build a larger parking lot.

If we put aside the discussion of the deficiencies in the data and the analysis for the time being and accept the need for additional parking, Phase 1 of the preferred alternative could be supported, as a long term plan. We also continue to maintain that a parking fee at least for the relatively short summer season be explored to reduce parking demand in July and August.

11. Expanded Terminal: Current CCNS Position: Needs Further Review

The preferred alternative identified in the document is for vertical expansion. In the October 31, 2007 letter, we restated our concern over terminal building height. The NPS has an agreement with the PMA from the discussions around the 1990s master plan and its environmental documents that the new terminal building height would not exceed the height of the existing hangar. By selecting the vertical expansion alternative, this ⑬ agreement is ignored. The drawings illustrate the roof line to be above the height of the hangar. We could not find the specifications for exactly how high the roof line will be, or if a reduction in the roof pitch and height can still accommodate the second floor as per our comments. The CCNS staff can not support this alternative without the additional information of how high the roof will be and a discussion as to whether an alternative roof line could bring the roof line back in concert with the roofline of the hangar. We restate our request to see this section discuss the overall building height proposed, the prior understanding with the NPS, and to include a discussion of the town zoning height limits.

The horizontal expansion was ruled out based on environmental concerns (560 sf of isolated wetlands would be disturbed and the need to relocate a trailer and an access road). The CCNS staff requests a conversation about the trade off. Is the potential impact of a two story structure with pitched roofline to the view shed or the loss of 560 sf of wetlands of more impact to the park? At this point in the process, we are not prepared to say that the loss of an additional 560Sf of wetland is the park resource with the greatest weight in this matter. There is already 59,725 sf of impacted wetland with 67,000 sf restored. We need the additional data to weigh the two alternatives in terms of both natural and cultural resource costs.

5

12. Expand Turf Apron: Current CCNS Position: Support Preferred Alternative

(14) Expanding the turf apron would require that 1,250 sf of wetland be filled in. It would a non-impervious surface (turf) that would allow for drainage and runoff. The wetland lost is included in the mitigation plan, however, again, there are no net results included in the report so it is difficult to determine if a one-for-one trade off is in place.

Thank you for the opportunity to review the draft materials. Please call my office to arrange for further discussions.

Sincerely,

George E. Price, Jr.
Superintendent

CC: Michelle Ricci, Federal Aviation Administration
Michael Leger, Chairman, Provincetown Airport Commission
Arthur "Butch" Lisenby, Airport Manager
Rachel Schohn, Massachusetts Aeronautics Commission
Sharon Lynn, Town Manager, Provincetown

Response to comments in letter from United States Department of the Interior, (NPS, CCNS), July 9, 2008.

1. These sections have been revised.

2. These sections have been revised.

3. The table has been revised.

4. The figures have been revised. Also, a new figure has been added to clarify the changes in pavement.

5. The text and figures have been corrected and revised.

6. Figure 6.4 has been added that depicts where the lights will be installed. An alternative construction method has been identified that will reduce the impacts to grassland during installation. Section 5.6.2.5 discusses the cable plowing method that was successfully used at Nantucket Airport.

7. This alternative is discussed in Section 3.

8. Section 3 has been revised to discuss these alternatives.

9. Notes have been added to the figure that explain the alignment.

10. The alignment has been revised.

11. The text has been revised to recognize that CCNS staff has made an independent determination regarding the need for archeological survey work for the fence and TW light projects.

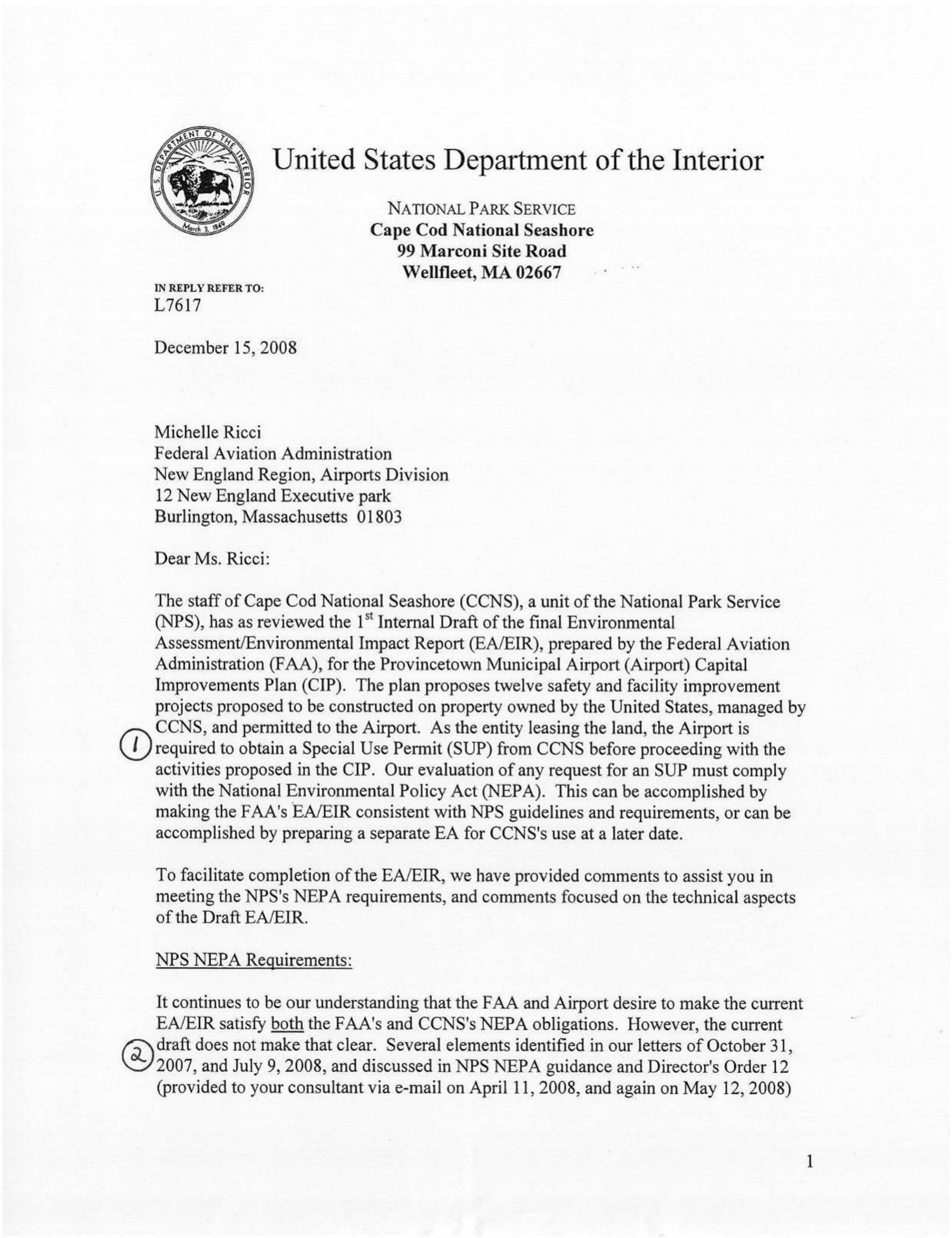
12. Additional data was collected in July 2008 and is discussed in a memo in appendix 4.2.

13. The Airport Commission coordinated with NPS during planning for the current Terminal building. The Commission agreed to revise the exterior design of the building to eliminate a cupola and not exceed the height of the hangar. The Airport Commission is not aware of a long term agreement to limit the height of any future terminal building design. To accommodate a second floor, the height of the proposed building at this stage of conceptual design is approximately 6 feet above the hangar.

14. Wetland impacts have been avoided with a reduced dimension alternative that is discussed in Section 3, 5, and 6.

13.5 December 2008 Comment Letter from National Park Service and Responses

This section contains the letter, dated December 15, 2008, received from the National Park Service on the 1st Internal Draft of the Final EIR/EA, and responses to comments in the letter. The specific comments have been identified by a number in the left hand margin of the certificate. Responses are identified with a corresponding number.



March 3, 1849

United States Department of the Interior

NATIONAL PARK SERVICE
Cape Cod National Seashore
99 Marconi Site Road
Wellfleet, MA 02667

IN REPLY REFER TO:
L7617

December 15, 2008

Michelle Ricci
Federal Aviation Administration
New England Region, Airports Division
12 New England Executive park
Burlington, Massachusetts 01803

Dear Ms. Ricci:

① The staff of Cape Cod National Seashore (CCNS), a unit of the National Park Service (NPS), has as reviewed the 1st Internal Draft of the final Environmental Assessment/Environmental Impact Report (EA/EIR), prepared by the Federal Aviation Administration (FAA), for the Provincetown Municipal Airport (Airport) Capital Improvements Plan (CIP). The plan proposes twelve safety and facility improvement projects proposed to be constructed on property owned by the United States, managed by CCNS, and permitted to the Airport. As the entity leasing the land, the Airport is required to obtain a Special Use Permit (SUP) from CCNS before proceeding with the activities proposed in the CIP. Our evaluation of any request for an SUP must comply with the National Environmental Policy Act (NEPA). This can be accomplished by making the FAA's EA/EIR consistent with NPS guidelines and requirements, or can be accomplished by preparing a separate EA for CCNS's use at a later date.

To facilitate completion of the EA/EIR, we have provided comments to assist you in meeting the NPS's NEPA requirements, and comments focused on the technical aspects of the Draft EA/EIR.

NPS NEPA Requirements:

② It continues to be our understanding that the FAA and Airport desire to make the current EA/EIR satisfy both the FAA's and CCNS's NEPA obligations. However, the current draft does not make that clear. Several elements identified in our letters of October 31, 2007, and July 9, 2008, and discussed in NPS NEPA guidance and Director's Order 12 (provided to your consultant via e-mail on April 11, 2008, and again on May 12, 2008) are still not addressed in the document. Please refer back to this guidance and previous correspondence as you prepare any subsequent drafts to ensure that CCNS's NEPA requirements are met.

Please note that one of the NPS's NEPA objectives is to provide the public with clear descriptions, analysis, and rationale regarding:

- the decision being considered;
- the potential impacts associated with each alternative regardless if effects are equal among two or more alternatives;
- full disclosure regarding the impact topics and alternatives identified; and
- equal and balanced presentation and analysis of the alternatives being analyzed in detail.

③ Toward that end, we request that the Introduction in the 2nd draft include a clear and concise description of the decision CCNS is considering and that is evaluated by this EA. We also request that the 2nd draft include all the impact topics noted in our previous correspondence. If analysis indicates that impacts associated with each topic do not differ substantially among alternatives, the nature of the impacts must still be described. Further, those impact topics that do not warrant analysis must be identified along with a ④ brief summary of why additional analysis is not warranted. Similarly, alternatives that were considered but rejected must also be identified with a brief explanation of why they were eliminated from further analysis.

We request that all subsequent drafts of this EA include all the elements required to meet NPS NEPA guidelines and requirements. In recent e-mail with my staff, you indicated that there is a timeline for completion of the EA/EIR that affects the availability of funding for the CIP. Following your consideration of these comments, we recommend meeting to discuss how best to meet NPS NEPA requirements without jeopardizing CIP funding.

Technical comments

The following comments address specific areas of the 1st Internal Draft of the final EA/EIR.

1. We note that the EA/EIR uses the terms "restoration" and "replication" when referring to freshwater wetland mitigation. Since this area historically was a salt marsh, compensatory mitigation for isolated freshwater wetlands is not restoration. Please delete the terms "restoration" and "replication" in all applicable text, tables, ⑤ and figures. Additionally and incidentally, we also note the repeated use of "Eastern Spadefoot" to refer to Eastern spadefoot toads. We recommend including the word toad with each reference.

2. In Figure 7-1 we noted a new coastal dune creation area and are unsure what is ⑥ intended to be accomplished. Please clarify the purpose of the new dune. Please also

identify the source of the sand to be used. The source will need to be certified that it does not contain archeological resources or non-native plant seed.

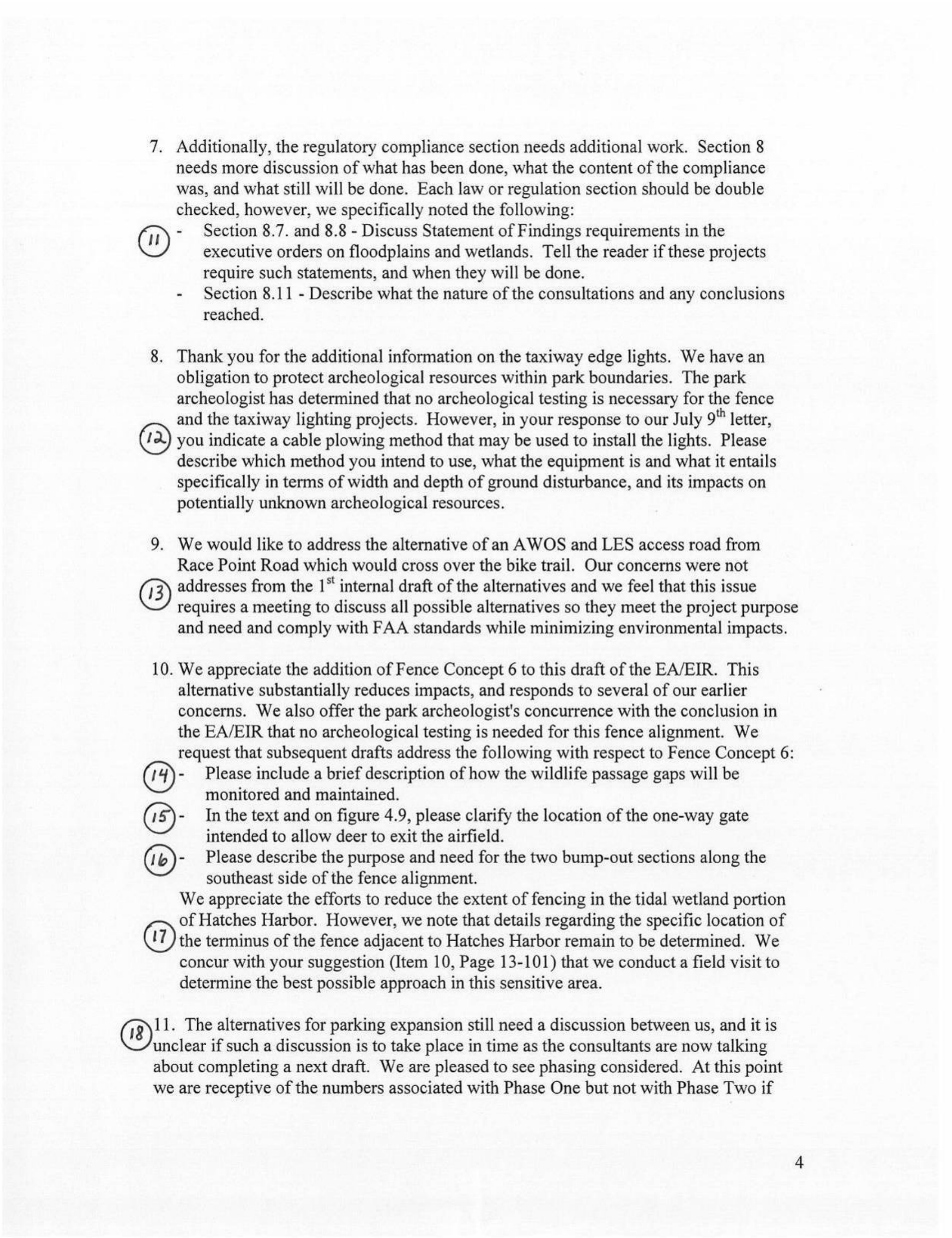
3. We find Sections 3 and 4 to be confusing. It appears that Section 3 is a description of the Preferred Alternative interspersed with discussion of alternatives considered but rejected, while Section 4 describes the alternatives being analyzed within the context of the Alternatives Analysis, and also included alternatives considered but rejected. To provide clarity for the public, we recommend revising Section 3 to include a summary of the alternatives considered but rejected followed by clear descriptions of the alternatives analyzed in detail, including the Preferred Alternative. Section 4 should then focus solely on evaluating the impacts of the alternatives selected for detailed analysis as described in Section 3. ⑦

4. Section 5.12 has been reviewed by park cultural resource staff and minor changes are needed. We suggest you remove the first word of that section. "State" implies that these are state-owned resources, which they are not. Additionally, please change "Race Point" bathhouse to "Herring Cove" bathhouse in the first paragraph. The list of archeological sites should include the remains of fisherman shacks near Herring Cove and Race Point. Our park archeologist has determined that no archeological testing is necessary for fence or taxiway light projects. Therefore, the text in Section 5.12 can be revised to reflect the park's determination, as well as in other sections where archeology for those two projects is discussed. ⑧

5. Section 6.11 also discusses cultural resources and two additional sentences are needed. Please include the following sentence under *Cultural Landscape*: "Impacts to the adjacent Dune Shacks of the Peaked Hill Bars Historic District will be negligible, depending on the final height of new structures and their affect on viewshed from the district." Under *Structures* please include: "CCNS concurs with MHC that no historic structures are present in the immediate area of potential effect." ⑨

6. We noted your addition of four environmental categories in Table 4-1 and Table 6-1. However, several of these impact topics are not evaluated in the text of the EA/EIR. Note that only "No Impact" categories do not require evaluation. Even if there is no significant difference between alternatives, the impacts must be covered within the EA/EIR - addressing these impact topics in the appendices as a reply note to the NPS letter is inadequate. The purpose of these tables and sections are to inform the public and all other agencies of the impacts. For example in Table 6-1, Construction Impacts and Water Quality are listed as being impacted but are not discussed in the section that follows. However, Air Quality and Noise have no impacts but are explained. Additionally, we do not see the reason for the omission of Floodplains in Section 6. Please see Executive Order 11988, Floodplain Management. There is a difference as per Table 4-1 in floodplain impacts, so these impacts must be addressed. In addition, the impact categories need to include those identified in NPS guidance (previously provided in our letters and emails) as well as all other applicable Executive Orders on wetlands and floodplains, etc. ⑩

3



7. Additionally, the regulatory compliance section needs additional work. Section 8 needs more discussion of what has been done, what the content of the compliance was, and what still will be done. Each law or regulation section should be double checked, however, we specifically noted the following:
   - ⑪ Section 8.7. and 8.8 - Discuss Statement of Findings requirements in the executive orders on floodplains and wetlands. Tell the reader if these projects require such statements, and when they will be done.
   - Section 8.11 - Describe what the nature of the consultations and any conclusions reached.

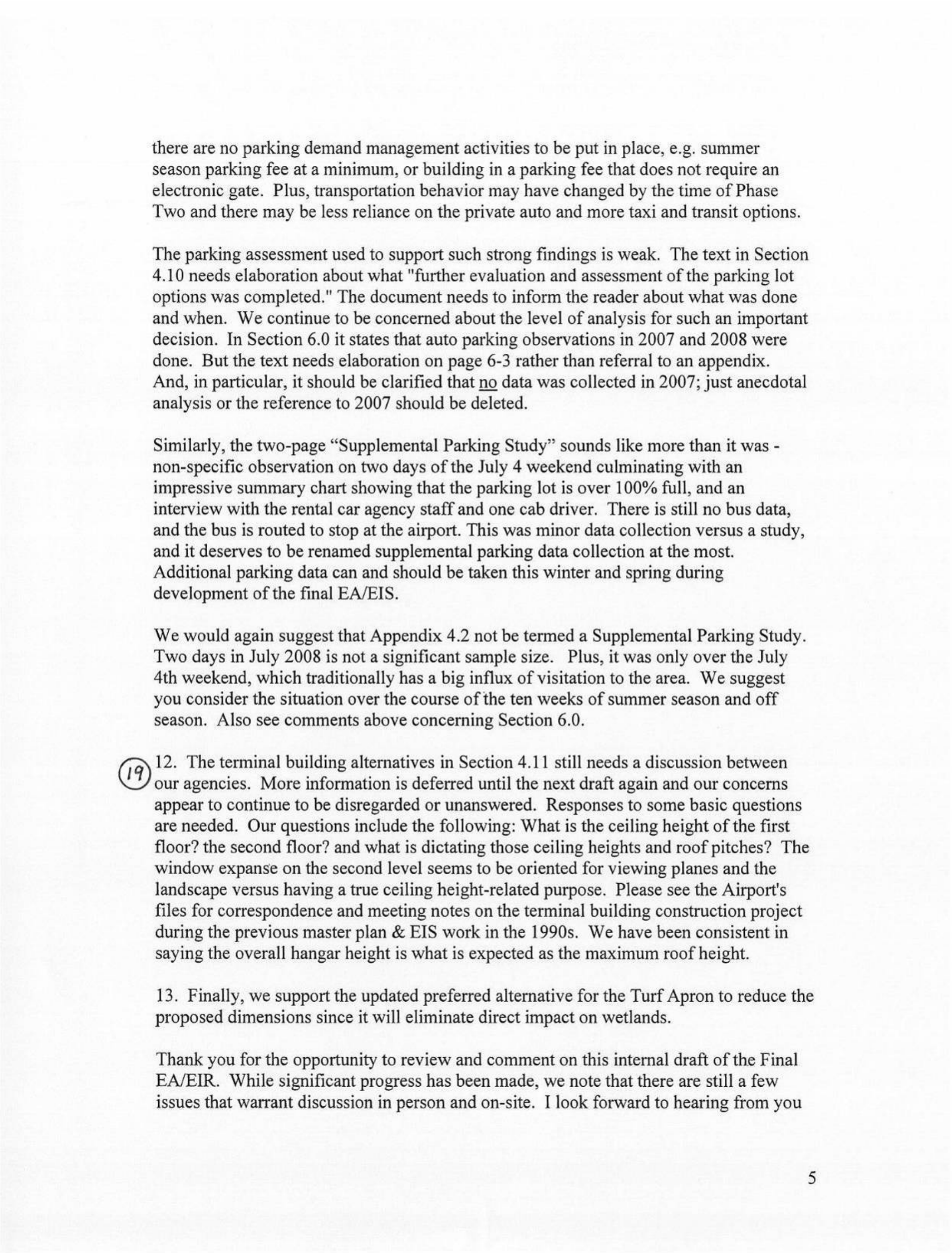
8. ⑫ Thank you for the additional information on the taxiway edge lights. We have an obligation to protect archeological resources within park boundaries. The park archeologist has determined that no archeological testing is necessary for the fence and the taxiway lighting projects. However, in your response to our July 9th letter, you indicate a cable plowing method that may be used to install the lights. Please describe which method you intend to use, what the equipment is and what it entails specifically in terms of width and depth of ground disturbance, and its impacts on potentially unknown archeological resources.

9. ⑬ We would like to address the alternative of an AWOS and LES access road from Race Point Road which would cross over the bike trail. Our concerns were not addresses from the 1st internal draft of the alternatives and we feel that this issue requires a meeting to discuss all possible alternatives so they meet the project purpose and need and comply with FAA standards while minimizing environmental impacts.

10. We appreciate the addition of Fence Concept 6 to this draft of the EA/EIR. This alternative substantially reduces impacts, and responds to several of our earlier concerns. We also offer the park archeologist's concurrence with the conclusion in the EA/EIR that no archeological testing is needed for this fence alignment. We request that subsequent drafts address the following with respect to Fence Concept 6:
    - ⑭ Please include a brief description of how the wildlife passage gaps will be monitored and maintained.
    - ⑮ In the text and on figure 4.9, please clarify the location of the one-way gate intended to allow deer to exit the airfield.
    - ⑯ Please describe the purpose and need for the two bump-out sections along the southeast side of the fence alignment.

    ⑰ We appreciate the efforts to reduce the extent of fencing in the tidal wetland portion of Hatches Harbor. However, we note that details regarding the specific location of the terminus of the fence adjacent to Hatches Harbor remain to be determined. We concur with your suggestion (Item 10, Page 13-101) that we conduct a field visit to determine the best possible approach in this sensitive area.

⑱ 11. The alternatives for parking expansion still need a discussion between us, and it is unclear if such a discussion is to take place in time as the consultants are now talking about completing a next draft. We are pleased to see phasing considered. At this point we are receptive of the numbers associated with Phase One but not with Phase Two if



there are no parking demand management activities to be put in place, e.g. summer season parking fee at a minimum, or building in a parking fee that does not require an electronic gate. Plus, transportation behavior may have changed by the time of Phase Two and there may be less reliance on the private auto and more taxi and transit options.

The parking assessment used to support such strong findings is weak. The text in Section 4.10 needs elaboration about what "further evaluation and assessment of the parking lot options was completed." The document needs to inform the reader about what was done and when. We continue to be concerned about the level of analysis for such an important decision. In Section 6.0 it states that auto parking observations in 2007 and 2008 were done. But the text needs elaboration on page 6-3 rather than referral to an appendix. And, in particular, it should be clarified that no data was collected in 2007; just anecdotal analysis or the reference to 2007 should be deleted.

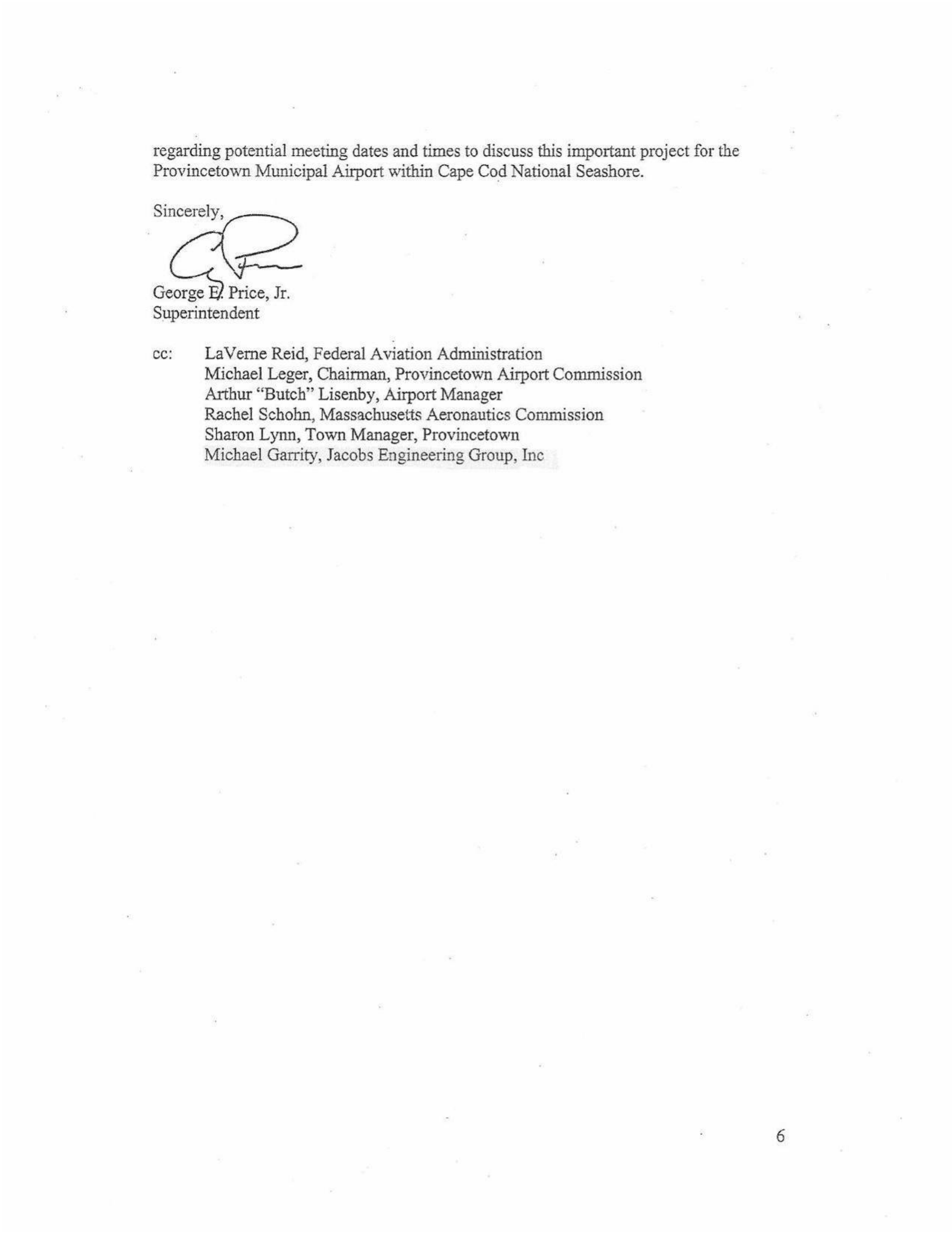
Similarly, the two-page "Supplemental Parking Study" sounds like more than it was - non-specific observation on two days of the July 4 weekend culminating with an impressive summary chart showing that the parking lot is over 100% full, and an interview with the rental car agency staff and one cab driver. There is still no bus data, and the bus is routed to stop at the airport. This was minor data collection versus a study, and it deserves to be renamed supplemental parking data collection at the most. Additional parking data can and should be taken this winter and spring during development of the final EA/EIS.

We would again suggest that Appendix 4.2 not be termed a Supplemental Parking Study. Two days in July 2008 is not a significant sample size. Plus, it was only over the July 4th weekend, which traditionally has a big influx of visitation to the area. We suggest you consider the situation over the course of the ten weeks of summer season and off season. Also see comments above concerning Section 6.0.

(19) 12. The terminal building alternatives in Section 4.11 still needs a discussion between our agencies. More information is deferred until the next draft again and our concerns appear to continue to be disregarded or unanswered. Responses to some basic questions are needed. Our questions include the following: What is the ceiling height of the first floor? the second floor? and what is dictating those ceiling heights and roof pitches? The window expanse on the second level seems to be oriented for viewing planes and the landscape versus having a true ceiling height-related purpose. Please see the Airport's files for correspondence and meeting notes on the terminal building construction project during the previous master plan & EIS work in the 1990s. We have been consistent in saying the overall hangar height is what is expected as the maximum roof height.

13. Finally, we support the updated preferred alternative for the Turf Apron to reduce the proposed dimensions since it will eliminate direct impact on wetlands.

Thank you for the opportunity to review and comment on this internal draft of the Final EA/EIR. While significant progress has been made, we note that there are still a few issues that warrant discussion in person and on-site. I look forward to hearing from you



regarding potential meeting dates and times to discuss this important project for the Provincetown Municipal Airport within Cape Cod National Seashore.

Sincerely,

George E. Price, Jr.
Superintendent

cc: LaVerne Reid, Federal Aviation Administration
Michael Leger, Chairman, Provincetown Airport Commission
Arthur "Butch" Lisenby, Airport Manager
Rachel Schohn, Massachusetts Aeronautics Commission
Sharon Lynn, Town Manager, Provincetown
Michael Garrity, Jacobs Engineering Group, Inc

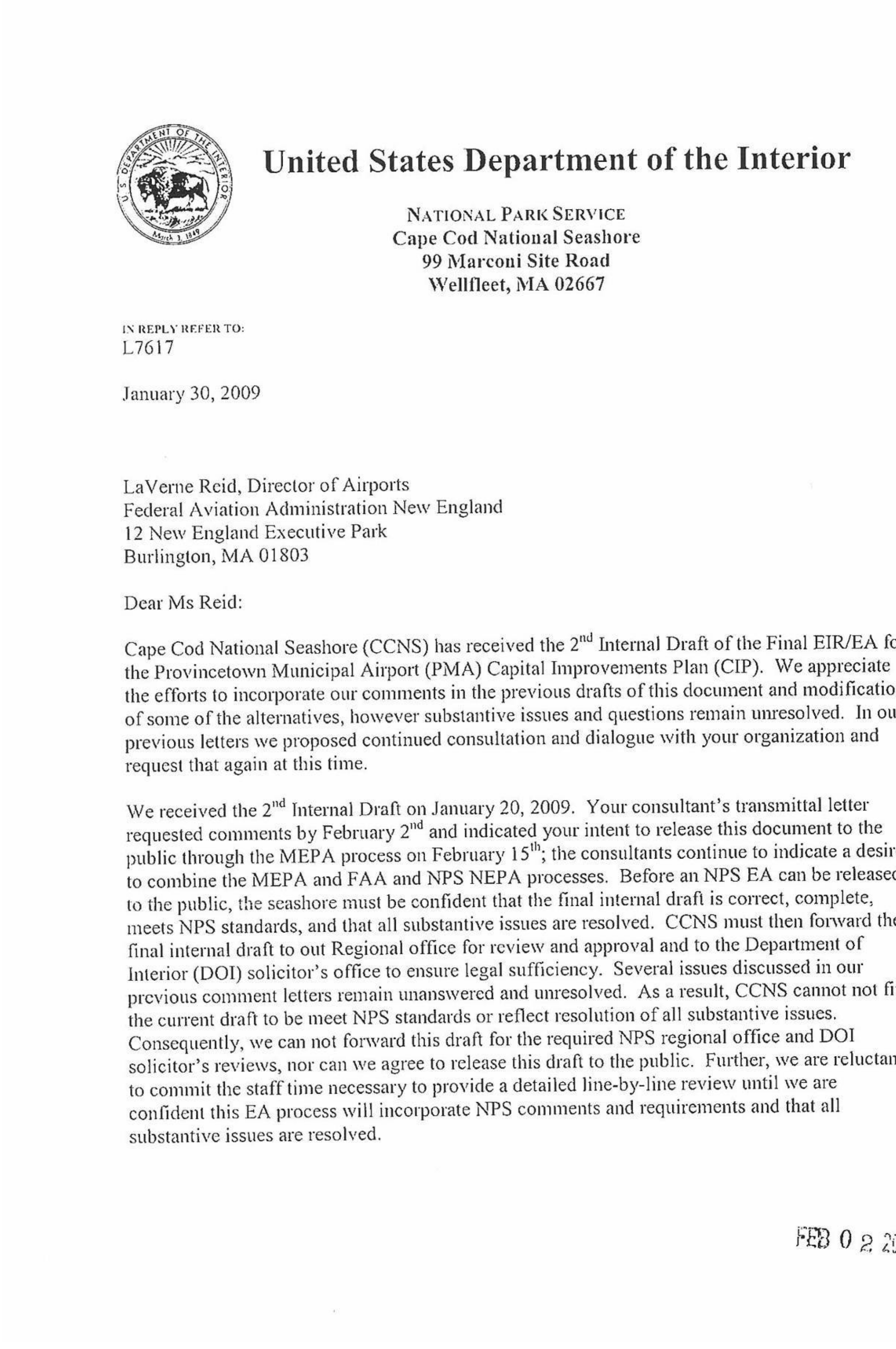
Response to comments in letter from United States Department of the Interior, (NPS, CCNS), December 15 2008.

1. The Airport Commission is discussing this issue with NPS.
2. It is the intent of FAA and the Airport Commission to make the FAA's NEPA document consistent with NPS guidelines and requirements. Revisions have been made to the document.
3. Section 1.1 describes the federal actions for both FAA and NPS.
4. Section 1 has been revised to identify which impact categories have been dismissed from further analysis and why.
5. The terms restoration, replication, and mitigation are used interchangeably in this document as noted in Section 7. Because of the various permitting regulations, no one term will suffice for all reviewers. Specific permit applications will use the term specific to the particular need. We note that NPS used the term "restored" when referring to wetland mitigation on page 1 of the July 9, 2008 letter. The wetlands within the project area are freshwater wetlands, either isolated or bordering. Similar wetlands will be constructed. The word toad has been used with each reference to the Eastern Spadefoot.
6. The coastal dune creation area is the same as the area shown in the May 31, 2007 NPC/Draft EIR/EA. In addition to providing coastal dune mitigation, the dune area maintains the existing separation between wetland areas I and C/J/FK as discussed in Section 7.2. The contract documents will require that the source of the sand be certified that it does not contain archaeological resources or non-native plant seed.
7. The document has been revised.
8. The changes have been made. We note that the term "Race Point" bathhouse was suggested by the October 31, 2007 NPS letter. The bathhouse is now referred to as the Herring Cove bathhouse as directed by the December 15, 2008 NPS letter.
9. The text has been revised.
10. The document has been revised to address these comments.
11. Section 8 has been revised.
12. The cable plowing method is described in Section 5.6.2.5.
13. The LES service road alternative that would come in from Race Point Road and cross the bike path has been re-evaluated and dismissed as discussed in Section 3.
14. NHESP has provided initial guidance on the location and inspection of the proposed gaps in the fence to facilitate movement of turtles and toads. The gaps would be inspected at least once a year in the spring as part of the Airport's operational mitigation plan. Since the graded patrol road has been eliminated, NHESP will include in their determination required mitigation relative to access to, location of, and methods of maintaining the gaps.
15. The one-way gate has been eliminated for operational and security reasons. The existing gate near the SRE building will be used for any deer who can not exit the airfield towards the west.
16. The bump-out section at the Runway 25 End is necessary to avoid the approach surface. The fence alignment extends a little beyond the approach surface in order to minimize wetland impacts in wetland area E/DD. The bump-out section at the Runway 7 End enclosed the non-directional beacon shelter. This bump-out has been eliminated and a gate will be installed to allow access to the shelter. The fence alignment on the south side has been further revised to avoid critical Eastern Spadefoot toad breeding habitat as shown on Figures 6.8 and 6.9.
17. The terminus of the fence has been revised as shown on Figure 6.8.
18. The Airport Commission would like to discuss this and other issues with the NPS. Various reports have been submitted to the CCC and renaming the documents would be confusing for agency project files.
19. The Airport Commission coordinated with NPS during planning for the current Terminal building. The Commission agreed to revise the exterior design of the building to eliminate a

cupola. The Airport Commission is not aware of a long term agreement to limit the height of any future terminal building design. To accommodate a second floor, the height of the Preferred Alternative at this stage of conceptual design is approximately 6-12 feet above the hangar as discussed in Section 5.

13.6 January 30, 2009 Comment Letter from National Park Service

This section contains the letter, dated January 30, 2009, received from the National Park Service on the 2nd Internal Draft of the Final EA/EIR. Several meetings and conference calls were held to discuss the issues in the letter. The document has been reorganized to meet NPS standards for NEPA documents.



United States Department of the Interior

NATIONAL PARK SERVICE
Cape Cod National Seashore
99 Marconi Site Road
Wellfleet, MA 02667

IN REPLY REFER TO:
L7617

January 30, 2009

LaVerne Reid, Director of Airports
Federal Aviation Administration New England
12 New England Executive Park
Burlington, MA 01803

Dear Ms Reid:

Cape Cod National Seashore (CCNS) has received the 2nd Internal Draft of the Final EIR/EA for the Provincetown Municipal Airport (PMA) Capital Improvements Plan (CIP). We appreciate the efforts to incorporate our comments in the previous drafts of this document and modifications of some of the alternatives, however substantive issues and questions remain unresolved. In our previous letters we proposed continued consultation and dialogue with your organization and request that again at this time.

We received the 2nd Internal Draft on January 20, 2009. Your consultant's transmittal letter requested comments by February 2nd and indicated your intent to release this document to the public through the MEPA process on February 15th; the consultants continue to indicate a desire to combine the MEPA and FAA and NPS NEPA processes. Before an NPS EA can be released to the public, the seashore must be confident that the final internal draft is correct, complete, meets NPS standards, and that all substantive issues are resolved. CCNS must then forward the final internal draft to out Regional office for review and approval and to the Department of Interior (DOI) solicitor's office to ensure legal sufficiency. Several issues discussed in our previous comment letters remain unanswered and unresolved. As a result, CCNS cannot not find the current draft to be meet NPS standards or reflect resolution of all substantive issues. Consequently, we can not forward this draft for the required NPS regional office and DOI solicitor's reviews, nor can we agree to release this draft to the public. Further, we are reluctant to commit the staff time necessary to provide a detailed line-by-line review until we are confident this EA process will incorporate NPS comments and requirements and that all substantive issues are resolved.

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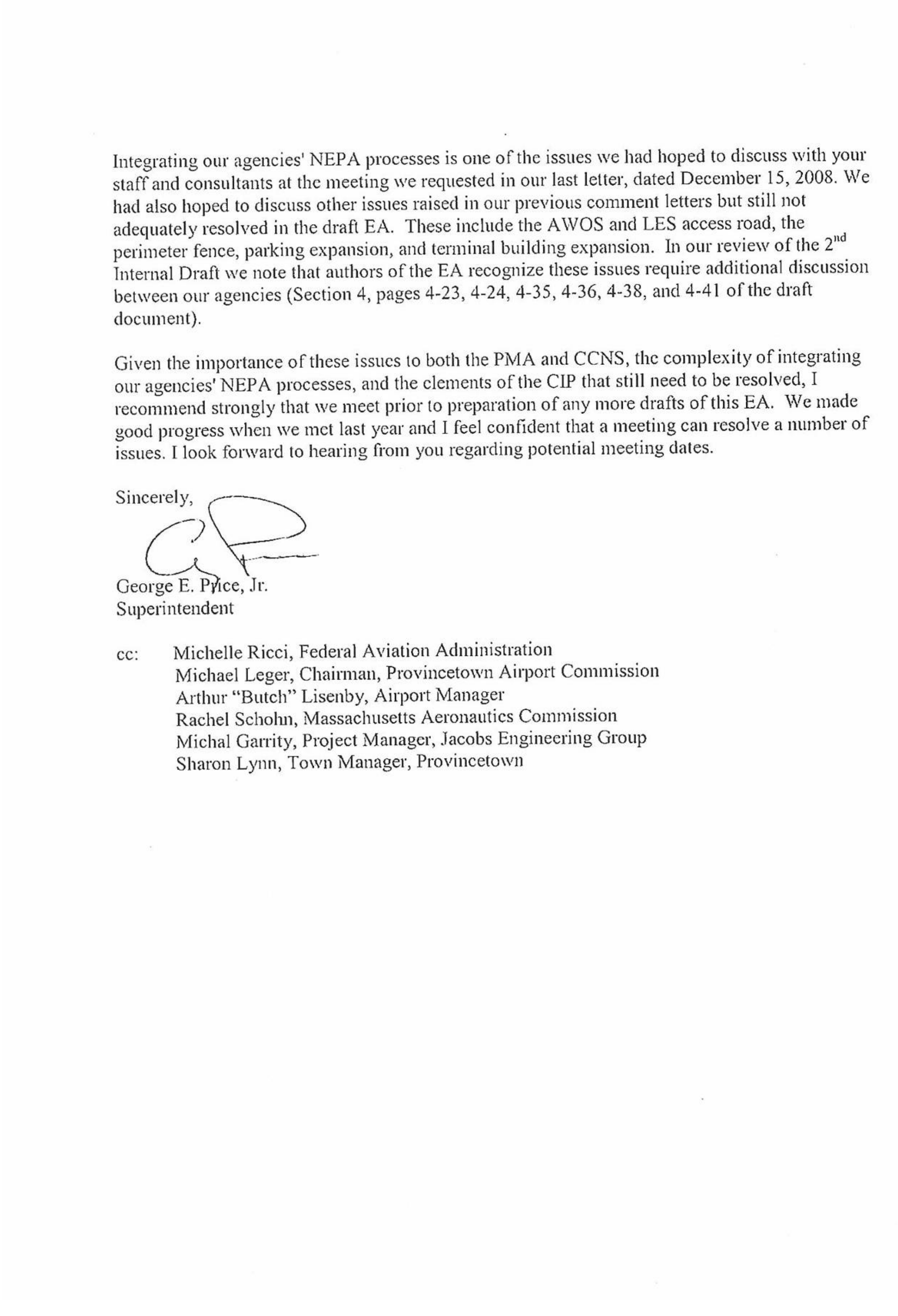


Integrating our agencies' NEPA processes is one of the issues we had hoped to discuss with your staff and consultants at the meeting we requested in our last letter, dated December 15, 2008. We had also hoped to discuss other issues raised in our previous comment letters but still not adequately resolved in the draft EA. These include the AWOS and LES access road, the perimeter fence, parking expansion, and terminal building expansion. In our review of the 2nd Internal Draft we note that authors of the EA recognize these issues require additional discussion between our agencies (Section 4, pages 4-23, 4-24, 4-35, 4-36, 4-38, and 4-41 of the draft document).

Given the importance of these issues to both the PMA and CCNS, the complexity of integrating our agencies' NEPA processes, and the elements of the CIP that still need to be resolved, I recommend strongly that we meet prior to preparation of any more drafts of this EA. We made good progress when we met last year and I feel confident that a meeting can resolve a number of issues. I look forward to hearing from you regarding potential meeting dates.

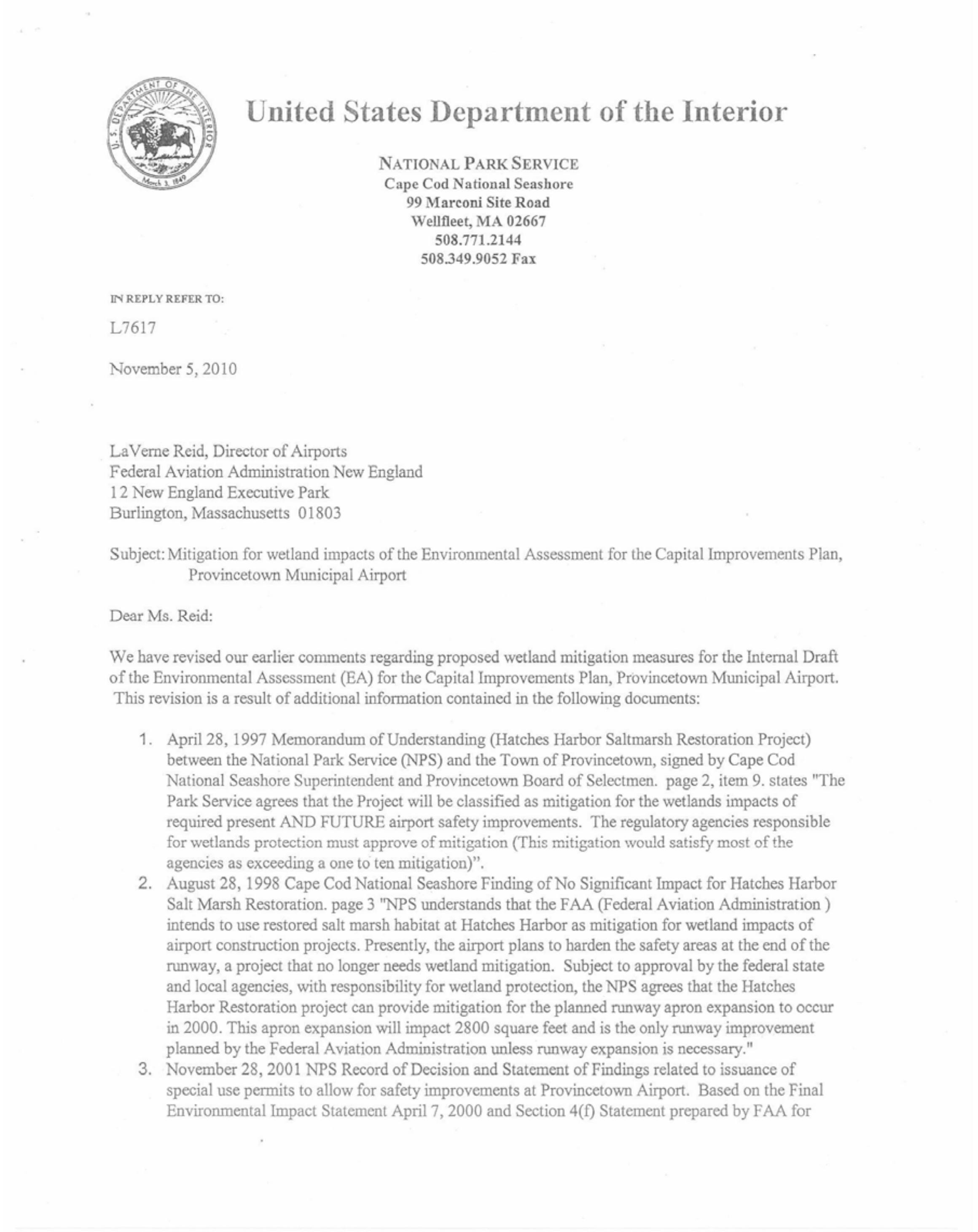
Sincerely,

George E. Price, Jr.
Superintendent

cc: Michelle Ricci, Federal Aviation Administration
Michael Leger, Chairman, Provincetown Airport Commission
Arthur "Butch" Lisenby, Airport Manager
Rachel Schohn, Massachusetts Aeronautics Commission
Michal Garrity, Project Manager, Jacobs Engineering Group
Sharon Lynn, Town Manager, Provincetown

13.7 November 5, 2010 Comment Letter from National Park Service

This section contains the letter, dated November 5, 2010, received from the National Park Service on the Revised 4th Internal Draft of the Final EA/EIR. Several meetings and conference calls were held to discuss the issues in the letter. The mitigation mentioned in the letter has been referenced and included in the Mitigation Section of the document, as requested in the NPS letter.



United States Department of the Interior

NATIONAL PARK SERVICE
Cape Cod National Seashore
99 Marconi Site Road
Wellfleet, MA 02667
508.771.2144
508.349.9052 Fax

IN REPLY REFER TO:
L7617

November 5, 2010

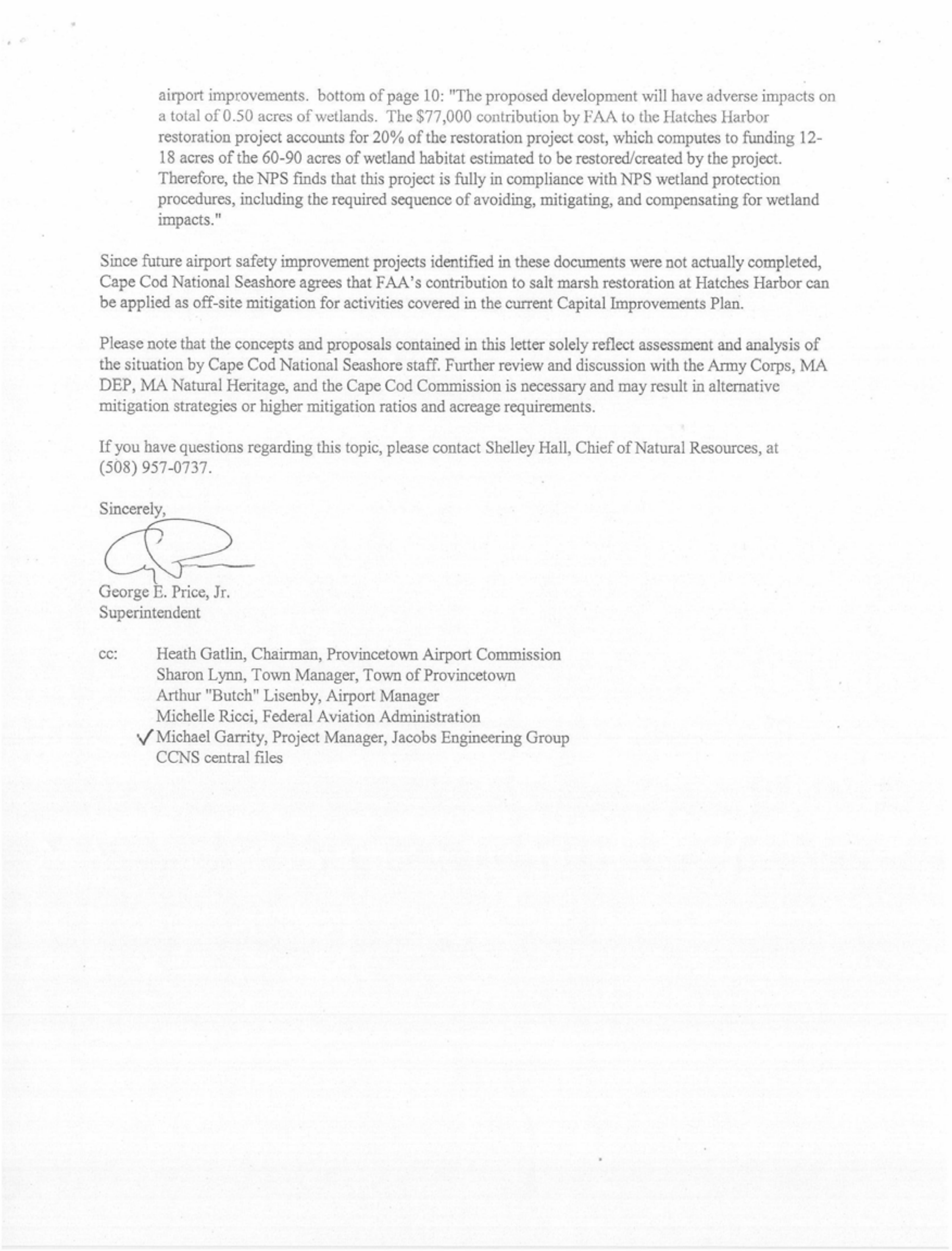
LaVerne Reid, Director of Airports
Federal Aviation Administration New England
12 New England Executive Park
Burlington, Massachusetts 01803

Subject: Mitigation for wetland impacts of the Environmental Assessment for the Capital Improvements Plan, Provincetown Municipal Airport

Dear Ms. Reid:

We have revised our earlier comments regarding proposed wetland mitigation measures for the Internal Draft of the Environmental Assessment (EA) for the Capital Improvements Plan, Provincetown Municipal Airport. This revision is a result of additional information contained in the following documents:

1. April 28, 1997 Memorandum of Understanding (Hatches Harbor Saltmarsh Restoration Project) between the National Park Service (NPS) and the Town of Provincetown, signed by Cape Cod National Seashore Superintendent and Provincetown Board of Selectmen. page 2, item 9. states "The Park Service agrees that the Project will be classified as mitigation for the wetlands impacts of required present AND FUTURE airport safety improvements. The regulatory agencies responsible for wetlands protection must approve of mitigation (This mitigation would satisfy most of the agencies as exceeding a one to ten mitigation)".
2. August 28, 1998 Cape Cod National Seashore Finding of No Significant Impact for Hatches Harbor Salt Marsh Restoration. page 3 "NPS understands that the FAA (Federal Aviation Administration) intends to use restored salt marsh habitat at Hatches Harbor as mitigation for wetland impacts of airport construction projects. Presently, the airport plans to harden the safety areas at the end of the runway, a project that no longer needs wetland mitigation. Subject to approval by the federal state and local agencies, with responsibility for wetland protection, the NPS agrees that the Hatches Harbor Restoration project can provide mitigation for the planned runway apron expansion to occur in 2000. This apron expansion will impact 2800 square feet and is the only runway improvement planned by the Federal Aviation Administration unless runway expansion is necessary."
3. November 28, 2001 NPS Record of Decision and Statement of Findings related to issuance of special use permits to allow for safety improvements at Provincetown Airport. Based on the Final Environmental Impact Statement April 7, 2000 and Section 4(f) Statement prepared by FAA for



> airport improvements. bottom of page 10: "The proposed development will have adverse impacts on a total of 0.50 acres of wetlands. The $77,000 contribution by FAA to the Hatches Harbor restoration project accounts for 20% of the restoration project cost, which computes to funding 12-18 acres of the 60-90 acres of wetland habitat estimated to be restored/created by the project. Therefore, the NPS finds that this project is fully in compliance with NPS wetland protection procedures, including the required sequence of avoiding, mitigating, and compensating for wetland impacts."

Since future airport safety improvement projects identified in these documents were not actually completed, Cape Cod National Seashore agrees that FAA's contribution to salt marsh restoration at Hatches Harbor can be applied as off-site mitigation for activities covered in the current Capital Improvements Plan.

Please note that the concepts and proposals contained in this letter solely reflect assessment and analysis of the situation by Cape Cod National Seashore staff. Further review and discussion with the Army Corps, MA DEP, MA Natural Heritage, and the Cape Cod Commission is necessary and may result in alternative mitigation strategies or higher mitigation ratios and acreage requirements.

If you have questions regarding this topic, please contact Shelley Hall, Chief of Natural Resources, at (508) 957-0737.

Sincerely,

George E. Price, Jr.
Superintendent

cc: Heath Gatlin, Chairman, Provincetown Airport Commission
Sharon Lynn, Town Manager, Town of Provincetown
Arthur "Butch" Lisenby, Airport Manager
Michelle Ricci, Federal Aviation Administration
✓ Michael Garrity, Project Manager, Jacobs Engineering Group
CCNS central files

SECTION 2.0 PURPOSE AND NEED

Purpose

The purpose of the CIP project elements is to:

- Enhance Airport safety and security.
- Enhance the efficiency of the Airport to more fully meet the current and anticipated demand.

Several of the CIP projects will provide operational safety and security improvements at Provincetown Municipal Airport that comply with current FAA, Massachusetts Department of Transportation (MassDOT) Aeronautics Division, and TSA safety and security design standards for a non-hub primary service airport. The use of these standards is mandatory for airport projects receiving Federal grant-in-aid assistance. It is the policy of the Airports Division of the FAA New England regional office that airport improvement projects must comply with the national airport design standards.

Three of the CIP projects will address existing and anticipated capacity needs. The proposed addition to the Terminal would replace the lost passenger space taken by TSA for secure waiting areas, and passenger and baggage screening, and support future passenger needs. The proposed improvements to the parking lot and the turf apron are design to address the current and projected needs at the Airport.

Need

The CIP projects are needed because:

- Certain airfield facilities do not meet current safety and security standards.
- The Airport’s existing parking and terminal facilities cannot efficiently meet current and projected demand.

To explain the purpose and need for these projects, the following discussion of the FAA and TSA safety and security regulations, standards and guidelines is provided as background.

2.1 Overview of Airport Safety and Security Design Standards

The following discussion is based on information obtained from FAA, MassDOT, and TSA. Additional information was obtained from staff at the FAA New England Regional Office, Planning Branch, and Safety & Standards Branch. Applicable portions of regulations and design standards are included in Appendix 6.

The primary mission of the FAA is safety. As stated in FAA Order 5100.38C, Airport Improvement Program Handbook: “The highest aviation priority of the United states is the safe and secure operation of the airport and airway system.” The authority to regulate the aviation system, and the extensive design standards are discussed below.

Acts of Congress

Safety

The Federal Aviation Administration has been given the authority to regulate civil aviation by several acts of Congress. Starting with the Air Commerce Act of 1926, the new aeronautics branch of the Department of Commerce assumed responsibility for aviation oversight and concentrated on safety rulemaking and certification of pilots and aircraft. It also took over operation of the nation's system of lighted airways from the Post Office Department. The Civil Aeronautics Act of 1938 transferred responsibilities to a new independent agency, the Civil Aeronautics Authority. The Federal Aviation Act of 1958 created a new independent body, the Federal Aviation Agency, with broader authority to combat aviation hazards. In 1966 Congress authorized the Department of Transportation and the Agency became the Federal Aviation Administration. The Airport and Airway Development Act of 1970 made FAA responsible for safety certification of airports served by air carriers. The Airport and Airway Improvement Act of 1982 established the Airport Improvement Program (AIP). The AIP provides grants to public agencies for the planning and development of public-use airports that are included in the National Plan of Integrated Airport Systems (NPIAS). The NPIAS is comprised of all commercial service airports, all reliever airports, and selected general aviation airports.

Security

The FAA became more involved in the field of aviation security during the hijacking epidemic of the 1960s. The Aviation Security Improvement Act of 1990 directed the FAA to develop guidelines for airport design to allow for security enhancement. The Aviation and Transportation Security Act (ATSA), signed into law November 2001, established the Transportation Security Administration (TSA) following the September 11, 2001 terrorist attacks. The TSA was given responsibility for securing all modes of transportation, including aviation. The establishment of the Department of Homeland Security (DHS) in 2002 further defined the responsibilities of TSA. Although the public is most aware of efforts to improve security relative to passenger and baggage screening, another area of aviation security pertains to the perimeters of airport properties. In June 2006, TSA issued Recommended Security Guidelines for Airport Planning, Design and Construction, which includes guidelines for perimeter security and access points.

Laws and Regulations

The FAA has the statutory authority to issue rules on aviation safety under Title 14 and Title 49 of the United States Code. The United States Code is the codification by subject matter of the general and permanent laws of the United States. It is divided by broad subjects into 50 titles and published by the Office of the Law Revision Counsel of the U.S. House of Representatives.

Safety

Title 14 presents regulations governing the activities of the Department of Transportation and the National Aeronautics and Space Administration in the areas of aeronautics and space, including: aircraft, aviators, airspace, air traffic, certification of air carriers and operations, and airports. Chapter 1 of Title 14 includes the Federal Aviation Administration, Department of Transportation. The following section is relevant to the discussion of the proposed projects at the Airport:

- 14 CFR Part 77 applies to Objects Affecting Navigable Airspace. Part 77 establishes standards for determining obstructions in navigable airspace. These standards are established through imaginary obstacle free surfaces with relation to the airport and each runway.

Security

Regulations relative to airport security can be found at Title 14 CFR Part 107 and Part 121. Part 107 regulates airport security and Part 121 defines the operating regulations for commercial carriers.

Title 49 also relates to security at airports. Title 49 presents regulations governing research and special programs administration, railroads, highways, vessel cargo containers, traffic safety, surface transportation, transit administration, and transportation safety. The following section is relevant to the discussion of the proposed projects at the Airport:

- 49 CFR Subchapter C Part 1542 applies to Civil Aviation Security. Part 1542 requires airport operators to adopt and carry out a security program approved by TSA.
- 49 CFR Part 1544 applies to the security of airport operations.

Airport Operations Safety Design Standards and Guidelines

The FAA publishes documents known as Advisory Circulars (ACs) and Orders, while not regulations, provide accepted operational safety design standards to meet responsibilities pursuant to the regulations. The use of these standards is mandatory for airport projects receiving Federal grant-in-aid assistance. AIP funded projects are required to comply with certain FAA Advisory Circulars (AC). The list of required ACs is provided in Appendix 6 and can also be found at <www.faa.gov/airports_airtraffic/airports/aip/media/aip_pfc_checklist_fy2007.pdf>.

FAA Airport Design Advisory Circular (AC 150/5300-13) includes the design standards for all civilian airports. As stated on the signature page of the Advisory, “For airport projects receiving Federal grant-in-aid assistance, the use of these standards is mandatory.” The design standards are important because they establish a uniformity and consistency of design that has been adopted by the FAA to promote the safe movement of aircraft at all airports in the United States. Whenever possible, existing airport facilities are brought to current standards as an adjunct to other projects, such as pavement reconstruction and other improvement projects.

Specific sections of relevant ACs and Orders that apply to the proposed projects are provided later in this section.

Airport Security Design Standards and Guidelines

FAA Airport Design Advisory Circular (AC 150/5300-13, Chapter 6, Paragraph 614) includes site requirements for NAVAID facilities and security of those facilities.

In June 2001, the FAA issued revised Recommended Security Guidelines pursuant to the Aviation Security Improvement Act of 1990. In June 2006, TSA issued Recommended Security Guidelines for Airport Planning, Design and Construction.

In Massachusetts, public-use airports are subject to requirements issued by the MassDOT Aeronautics Division Directive Airport Security AD-001a. Each airport is required to prepare an Airport Security Plan in accordance with the Directive and Federal guidelines.

On the local level, the Provincetown Airport Commission applies all the guidance documents to prepare a Security Plan for the Airport that is appropriate for the type of airport operations, secure areas, and other conditions specific to the Airport. The specifics of the PVC Security Plan cannot be discussed in this unclassified document for security reasons. However, the most visible impact has been the mandatory conversion of approximately 1,600 square feet (61%) of the passenger lobby to TSA restricted area.

Airport Waivers

FAA policy states that all new airport projects receiving AIP funds must be constructed in compliance with the national design standards for airports. Existing facilities such as taxiways, runways and safety areas must be brought up to current design standards as part of any construction project to the fullest extent possible.

Waivers to airport design standards for a specific airport may be granted if there are unique local conditions and an equivalent level of safety can be provided under the waiver. Any waiver of an airspace clearance standard related to new construction, reconstruction, expansion, or upgrade on an airport which receives Federal aid requires special review and FAA approval. The waiver must be fully justified on the basis of need and must provide an equivalent level of safety. These are reviewed on a case by case basis.

FAA issued the Airport a Waiver in 1980 of the standard for the width of the FAR Part 77 primary surface, which is one of several navigable airspace surfaces. The clearing of the Airport’s primary surface is 500 feet wide (250 feet off the runway centerline on either side) instead of the standard 1,000 foot width. It was determined that tree clearing to comply with the standard 1,000 foot primary surface would have an adverse impact on the Cape Cod National Seashore (CCNS) that could be avoided while still providing an equivalent level of safety. The Waiver was justified based on the slow approach speed of the DC-3, the small GA aircraft using the Airport at the time, and the installation of the Instrument Landing System (ILS), which would provide an acceptable level of safety at the Airport. Waivers are typically written for the aircraft type using the airport at the time. In 1980, the Waiver was written for safe operations of the DC-3 commuter aircraft and small General Aviation (GA) type aircraft which were the primary aircraft type at the time.

Waivers may be revoked if necessary to safely accommodate any significant changes in aircraft operating at an airport. Although the type of aircraft operating at the Airport has changed, there is no indication that the 1980 Waiver will be revoked. The Waiver is included in Appendix 6.

The justification of applying for waivers for the proposed CIP safety projects was evaluated. Measures that would provide an equivalent level of safety for operations on the taxiways would require a control tower which the Airport does not have.

2.2 Airport Operational Safety and Security CIP Projects

The purpose and need for each of the twelve (12) project elements is presented in this and the following section. Table 2-1 provides the specific references for the FAA, MassDOT, and TSA safety and security design standards. The applicable portions of the referenced documents are provided in Appendix 6. A summary of the purpose and need for each of the 12 CIP project elements is provided in Table 2-2.

The purpose of nine of the twelve projects is to provide operational safety and security at the Airport. The listed order of the projects does not necessarily reflect the order in which they would be constructed. Construction and permitting phasing is discussed in Section 6. The CIP projects are:

1. Westerly Taxiway System Improvements
2. Relocate East End Taxiway
3. Reconstruct Terminal Apron
4. Reconstruct Easterly End of Parallel Taxiway
5. Install Taxiway Edge Lights and Construct Electric Vault
6. Sightseeing Shack Improvements
7. Improve Access Road To Medium Intensity Approach Light System with Flashers (MALSF) Approach Lights
8. Construct Service Access Roads to the Localizer Equipment Shelter (LES) and to the Automated Weather Observation Station (AWOS)
9. Install a Perimeter Safety/Security Fence

2.2 PROPOSED SAFETY AND SECURITY PROJECTS

1. Westerly Taxiway (TW) System Improvements

The components of the TW system at the westerly end of Runway 7 are closely interconnected in terms of function and design. For these reasons the West End Connector TW, the westerly end of the Parallel TW, and the Mid Connector TW are included under the heading of Westerly TW System Improvements. The sub elements of the Westerly TW System are discussed separately in terms of purpose and need and for the alternatives analysis. They are combined as one project in terms of impacts and mitigation because the elements overlap and the entire taxiway system would be constructed together.

A. Relocate the West End Taxiway (TW)

Purpose: Safety

The purpose of relocating the West End Connector TW (West End TW) is to comply with FAA flight operation safety standards. There are three issues with the current alignment:

1. The West End TW is a jug-handle shaped taxiway. The jug-handle configuration was constructed years ago to accommodate the turning radius of the DC-3 airliners that were flown at the time. The DC-3s are no longer in operation. Currently, FAA design standards provide for an L-shaped intersection with a right angle to the runway for operational safety. Such a reconfiguration would generally be programmed when the taxiway pavement needs to be reconstructed.

2. The existing taxiway is located within the Runway 7 approach surface as defined by 14 CFR Part 77. Because of this condition, pilots waiting to depart Runway 7 are required to hold short of the runway, limiting their view of the runway, which makes the taxiing procedure especially hazardous during low visibility and peak operating times.

3. The taxiway intersects parallel to the end of the runway rather than at a right angle to the runway because the runway was shifted east to accommodate FAA required Runway Safety Areas (RSAs) and minimize environmental impacts. This intersection is not in compliance with the current FAA design standards. This increases the risks of runway incursions or collisions on the runway and must be corrected. This is a non-compliant safety issue for the Airport.

The West End TW is within the approach surface as a result of the shift of the runway to the east to accommodate runway safety areas (MEPA Certificate on FEIR #9386, January 14, 2000). At the time the runway was reconstructed with the safety areas, it was not feasible to include the reconstruction of the taxiways. It has always been the intention to correct this design deficiency as funds became available.

Need: Does not meet current FAA safety and design standards.

The West End TW needs to be relocated because it is within the approach surface, it intersects parallel to the end of the runway and it is not at a right angle with the runway so that approaching aircraft are not visible to taxiing planes. The fact that the Airport does not have a control tower adds to the need for a standard design taxiway at the Runway 7 end.

This project is needed because of the existing flight operation safety issues. Additionally, the taxiway pavement is eligible for reconstruction and funding is available. Although the taxiway would be relocated again if the runway were extended, (as noted in the comments on the ENF), it is not anticipated that a need for additional runway length would occur before the Year 2024 planning period and the safety issue must be addressed now.

Reference: 14 CFR Part 77.25(d); AC 150/5300-13 (See Table 2-1 and Appendix 6 for specific sections)

FAA has indicated that the West End connector taxiway would not qualify for a Waiver and must comply with national design standards when it is constructed.

B. Realign and Reconstruct the Westerly End of the Parallel Taxiway (TW)

Purpose: Safety

The purpose of realigning the parallel TW is to enhance safety by providing a straight alignment between the runway ends and the apron area in accordance with FAA design standards. The current taxiway shifts to the north at the mid-connector taxiway. An additional purpose of reconstructing the taxiway is to replace the section of aging pavement. Pavement is constructed according to FAA specifications, and the pavement is showing signs of deterioration. It is eligible for FAA reconstruction funding.

Need: Shift in taxiway presents an operational safety hazard.

The Parallel TW needs to be realigned and reconstructed because the taxiway centerline shifts twenty feet to the north between the Mid Connector taxiway and the West End taxiway. This shift in the centerline requires the pilot to change speed and direction, which presents a hazardous situation to pilots during nighttime and low visibility conditions. There are periods when fog moves in over the Airport and is trapped by the dunes to the north and south which provide natural barriers so the fog cannot dissipate. This reduces visibility and increases the risk of pilots “missing the turn” in what they expect to be a straight taxiway. The aircraft could potentially hit another parked aircraft or veer off into the wetlands. This hazard is not in compliance with FAA design standards. The shift in centerline resulted from a 1984 project to address non-compliance with an FAA Object Free Area. The taxiway centerline was shifted approximately twenty feet to the south between the mid and east taxiway connectors. The section between the Mid Connector TW and West End TW was not shifted at the time.

It has been suggested in the comments on the ENF that installing taxiway edge lights alone could address the operational safety issues. Taxiway edge lights would enhance safety during nighttime conditions, but the hazardous geometry still needs to be brought into compliance with FAA standards to enhance overall safety. This area of the Airport does not have any ambient lighting, as in the vicinity of the Terminal and East End TW area.

The realignment also provides the opportunity to remove some pavement along the length of the parallel taxiway as discussed later in the document.

Reference: AC 150/5300-13 (See Table 2-1 and Appendix 6 for specific sections)

FAA requires parallel taxiways connect to the runway thresholds at ILS airports. FAA policy is that this deficiency in the TW alignment must be corrected in accordance with current design standards when the pavement is reconstructed.

C. Realign the Mid Connector TW

Purpose: Safety

The purpose of realigning the Mid Connector TW is to bring the taxiway into compliance with FAA operational safety design standards. Similar to the West End taxiway, the Mid Connector taxiway is a jug-handle shape that was designed for the old tailwheel-equipped Douglas DC-3 passenger plane. The taxiway does not meet at the current standard right angle with the runway. However, aircraft holding to depart are not located within any clear zones, and the current alignment does not pose any current operational hazards.

Need: Does not meet current FAA safety and design standards.

The Mid Connector taxiway should be realigned because it does not meet current FAA standards and is not at a right angle with the runway. Although FAA has indicated that the mid TW would be acceptable for the short term until the pavement is reconstructed, it would be more cost efficient for design and construction to realign the Mid TW at the same time the parallel taxiway is realigned. For these reasons, the realignment is proposed as part of the Westerly TW System Improvements.

Reference: AC 150/5300-13 (See Table 2-1 and Appendix 6 for specific sections)

FAA requires that this alignment be brought up to current standards when the pavement is reconstructed.

2. Relocate the East End TW

Purpose: Safety

The East End TW has the standard design of a ninety-degree intersection but does not comply with the design standard to connect with the end of Runway 25. Pilots are required to “back taxi” in order to reach the end of Runway 25 prior to takeoff. This creates the potential for collisions between a back-taxiing aircraft and one that may be landing.

As some have pointed out, this offset is a result of the shift of the runway 200 feet to the east to provide RSAs. The taxiway was in existence at the time, but was not part of the project to construct RSAs. FAA did not require that it be reconstructed at that time and it was not included in the 1999 EIS/EIR.

Need: Aircraft must back-taxi on active runway, creating an operational safety hazard.

The project will eliminate the need to back-taxi on an active runway, in compliance with FAA operational safety and airfield design standards. The back-taxi maneuver creates a potential conflict with aircraft on final approach to landing. This operational hazard should be eliminated to be in compliance with FAA’s runway Incursion Prevention Program.

Reference: AC 150/5300-13 (See Table 2-1 and Appendix 6 for specific sections)

FAA requires that this intersection be brought up to current standards when the pavement is reconstructed.

3. Reconstruct the Terminal Apron

Purpose: Airfield Pavement Maintenance and Safety

The purpose of the terminal apron project is to maintain airfield safety and operational access by reconstructing the pavement within the existing footprint.

Need: Pavement is over twenty years old.

The terminal apron pavement needs to be reconstructed because it has deteriorated to fair condition. In the Certificate on the DEIR/NPC, the Secretary of EOEEA allowed the project to go forward prior to completion of the FEIR/EA. The project does not result in an increase in pavement or change in the footprint. A Notice of Intent was filed with the Provincetown Conservation Commission and the project was constructed in 2008. The Order of Conditions for the project is included in Section 10.3.

Reference: AC 150/5320-6d (See Table 2-1 and Appendix 6 for specific sections)

This project has been given clearance to go forward prior to circulation of the FEIR/EA and was completed in 2008.

4. Reconstruct the Easterly End of the Parallel TW within the Existing Footprint

Purpose: Airfield Pavement Maintenance and Safety

The purpose of reconstructing the pavement within the existing footprint of the easterly portion of the partial parallel taxiway is to replace pavement that is in poor condition. In the Certificate on the DEIR/NPC, the Secretary of EOEEA allowed the project to go forward prior to completion of the FEIR/EA, if funding is available. The project does not result in an increase in pavement or change in the footprint.

Need: Pavement is over twenty years old.

The project is needed because the pavement is in poor condition. Pavement at airports needs to be maintained so that loose or cracked pavement does not damage aircraft or present a hazard to operations.

In the Certificate on the DEIR/NPC, the Secretary of EOEEA allowed the project to go forward prior to completion of the FEIR/EA. The project does not result in an increase in pavement or change in the footprint. Although the reconstruction of the easterly end of the parallel taxiway has also been allowed by the Secretary to go forward ahead of the completion of the MEPA process, the project will likely be completed as part of the westerly taxiway system improvements.

Reference: AC 150/5220-6d (See Table 2-1 and Appendix 6 for specific sections)

FAA requires that the pavement be maintained up to current standards.

5. Install TW Lighting and Construct an Electric Vault

Purpose: Safety

The purpose of the TW edge lights, signs, and a new separate electric vault is to improve operational safety on the taxiways during nighttime operations and to upgrade the reliability of the power supply to the taxiway and runway lighting system.

Need: Lack of TW edge lights and signage presents an operational safety hazard.
Electric vault is not up to electrical code standards.

Medium Intensity Taxiway Edge Lights (MITLs) are needed for the taxiway system. The taxiways currently have reflectors but the lack of lighting can be a safety hazard during inclement weather or sudden fog conditions. Improvements to the lighting system for the taxiways would require additional space for the airfield electric vault which is currently located inside the sightseeing shack. A separate electrical vault is required to support the new lighting system, to allow adequate space that meets electrical code, and bring the system up to standards.

Reference: DOT/FAA/AR-04/10, Section 4; AC 150/5300-13 (See Table 2-1 and Appendix 6 for specific sections)

FAA requires that facilities be maintained to current operational and safety standards as part of reconstruction projects.

6. Sightseeing Shack Improvements

Purpose: Safety/Maintenance

The purpose of the Sightseeing Shack project is to repair or replace the building once the electrical equipment is removed.

Need: Building is in poor condition.

Since the building walls may need to be opened to remove the electrical equipment as part of the Install Taxiway Lighting and Construct Electric Vault improvements, and the structure is in poor condition, the building needs to be repaired or replaced with a new structure.

Reference: 2005 Master Plan.

It is the intent of the Airport Commission to maintain a building in the same location of similar size and with similar architecture, including a front porch.

7. Improve Access Road to the MALSF Approach Lights

Purpose: Safety

The purpose of improving the existing access road to the Runway 7 approach lights is to address an operational safety issue.

Construction of the existing embankment for the access road to the Medium Intensity Approach Light System with Flashers (MALSF) at the Runway 7 end was permitted by the DEP Decision on the Request for a Variance, dated May 18, 2001, and a CCC DRI Decision dated April 13, 2000. A new survey was completed for the final design stage for that project. When the impact area was recalculated with the updated elevation information, a discrepancy was discovered. In order to build the road with shoulders and a turn-around, additional area of Bordering Vegetated Wetland (BVW) would have needed to be filled beyond the amount specified in the Variance. Staff at DEP, the Provincetown Conservation Commission, and the CCC was consulted at the time. A request to amend the Variance was not prepared because of time and legal constraints relative to funding, construction contracts, and runway closures. Therefore, in order to be in compliance with the Variance, the road was constructed on a filled embankment approximately 3 feet above the adjacent wetland area, but without shoulders and without a turn-around area. Permitting agencies reviewed and approved the access road as constructed.

Need: FAA service vehicles must back up 400 feet on narrow embankment, presenting an operational safety hazard.

Several years of vehicle operations on the access road have confirmed the need for an improvement to the road. Because of the narrow width and lack of a turn-around area, FAA service vehicles must back up for a distance of 400 feet before being able to turn around. Without shoulders, this maneuver has always been difficult because the drivers of the FAA utility vehicles have difficulty seeing the edge of the road, especially in poor weather. Recently a vehicle went off the road onto the side slope. A large crane parked within the runway safety area was required to extricate the van. The runway had to be closed while the crane was on location.

FAA design standards for access roads to FAA owned and operated facilities have specific pavement requirements for the roads when they join a runway or taxiway. FAA Order 6940.1 specifies a paved access road for a minimum of 300 feet if it comes off a runway or taxiway. The pavement minimizes the potential for a vehicle to track stones or other foreign material onto the runway or taxiways, which might damage a plane. Aircraft turbine engines can be damaged from the ingestion of stones or other foreign objects.

At the time the MALSF road was constructed trucks were able to drive on the abandoned runway pavement resulting from the shift in the runway. This pavement will be removed as part of the relocation of the West End TW. The area will be rehabilitated as grassland habitat as part of the proposed mitigation for the CIP projects. Because of that pavement removal, the Airport proposes to pave the first 300 feet of the access road in accordance with FAA Order 6940.1. The access road to the glide slope antenna is currently paved for the entire distance.

Reference: Order 6940.1; AC 150/5300-13 (See Table 2-1 and Appendix 6 for specific sections)

FAA requires that this be brought up to current standards as funds become available.

8. Construct Service Access Roads to the Localizer Equipment Shelter (LES) and to the Weather Station (AWOS)

Purpose: Safety

The purpose of constructing access roads is to comply with FAA operational standards by providing vehicle access to the airfield equipment. The service access roads would improve maintenance access, especially in inclement weather or emergencies. As explained below, the access roads to the AWOS and LES have always been required, but at the time, construction of road access was put aside in order to complete the critical runway and MALSF improvements.

The CCC has asked in its comment letter on the ENF why the LES and AWOS access roads were not identified as a need during the RSA and MALSF approach lights project review. The need to relocate the AWOS was not anticipated during the design of the RSA and MALSF project. Therefore, relocating the AWOS was not part of the design or permitting project for the runway and MALSF improvements. The AWOS wind tower has its own clearance requirements and the strict clearance requirements of the AWOS wind tower instrument became apparent after the design and environmental permitting process was completed and the project had advanced to the construction phase. Significant tree clearing would have been necessary to avoid moving the AWOS after the RSA project. To avoid the need to cut additional trees, the AWOS was relocated to the infield between the runway and the taxiway, next to the wind cone and segmented circle. The AWOS field design change was reviewed and approved by DEP, the Provincetown Conservation Commission, and CCC. Because of the constraints of construction contracts, runway closures, and committed funding, an access road was not included in the submission because it would have required additional design and permitting. Access by road is proposed now because FAA requires compliance with applicable regulations for any new construction at an airport.

Similarly, the need to provide power service to the new localizer shelter (LES) was not included in the design and permitting process for the RSA and approach lights projects. Excavation to install the power cable was allowed by the CCC and DEP on the alignment of an existing foot path in Wetland B, provided the area was replanted and restored to the original narrow path. Although a narrow path walkway was allowed to be disturbed, there was not enough time to request a change to the DEP Variance and CCC DRI to include an access road to the localizer shelter. Access by road is proposed now because FAA requires compliance with applicable regulations for any new construction at an airport.

Need: Access is not in compliance with FAA Order 6940.1.

Equipment used by FAA technicians to serve the Localizer and AWOS is heavy and not easily transported by foot. The FAA technicians support a regional network of equipment, driving their utility trucks and vans to each site. Navigational equipment is repaired and replaced during all weather conditions to ensure safe airline operating conditions. Airports with passenger service are priority for immediate equipment repairs. The project is needed because current vehicle access to the Localizer Equipment Shelter and the Automated Weather Observing Station (AWOS) is off the active runway over unpaved surfaces.

Reference: Order 6940.1; AC 150/5300-13 (See Table 2-1 and Appendix 6 for specific sections)

FAA requires that this be brought up to current standards as funds become available.

9. Install Perimeter Safety/Security Fence

Purpose: Safety and Security

The purpose of the perimeter fencing is both safety and security. First, the fencing would improve safety by deterring deer and coyote, as well as hunters and hikers, from encroaching on the airfield’s operational area. Additionally, for the safety and security of all users of the CCNS, the perimeter fence is proposed to separate areas designated for airport operations from airport lease areas that are currently used by the public for recreational activities.

Secondly, fencing secures the Airport Operating Area (AOA), the Security Identification Display Area (SIDA), and other security areas from unauthorized access, in compliance with TSA Guidelines. The key concerns and concepts are to restrict access, control the flow of people, provide security screening, separate critical areas, protect areas and assets, and protect aircraft, people and property.

Need: Perimeter fence is needed for operational safety and security.

The Airport currently has fencing at the east end of Runway 25 which is adjacent to the CCNS bike path, and around the terminal apron and the fueling station.

Fencing is also needed to enclose currently unsecured areas and minimize unauthorized access for security. The Airport is a commercial service airport with scheduled flights into Boston Logan International Airport via Cape Air. Since Cape Air flies directly to Logan's secure terminal areas for direct connections to Jet Blue and other passenger airlines as discussed in Section 4, the Cape Air passengers must be pre-screened at Provincetown Airport. This direct connection to Logan means that airfield security at PVC must meet the rigid standards found under FAR Part 107.

Fencing is needed to deter deer and coyote from coming onto the runways and other operating areas. There have been several collisions over the years between aircraft and deer, resulting in damage to the planes and death of the animals. There have also been incidences when coyotes were on the runway and interfered with landing operations.

On limited occasions, hikers and horseback riders have gone down the runway, mistaking it as a paved road. Additionally, since recreational activities at the CCNS include a hunting program for deer, waterfowl, rabbit, and other species, there is a need to identify and limit access to the Airport operating lease area for the safety of all users. Currently, hunting is allowed by NPS regulation up to the edge of the glide slope critical area, which is directly adjacent to the runway as shown on Figure 1.3. Occasionally in hunting season, hunters have been observed crossing the runway and two hunting blinds were recently discovered as close as 200 feet from the runway. Despite signs, hunting activity is taking place within the airport operation area. These incidents are considered runway incursions, which increase the risk of accidents and need to be addressed to be in compliance with FAA's Runway Incursion Prevention Program.

Reference: *Recommended Security Guidelines for Airport Planning, Design and Construction*, revised June 15, 2006, TSA; AC 150/5300-13; MassDOT Aeronautics Division Directive AD-001a, November 14, 2001 (See Table 2-1 and Appendix 6 for specific sections)

FAA and the Airport Commission recognize that the Airport is located within a sensitive environment. An alternative that provides for critical sections of fence, along with signage and the use of natural barriers has been evaluated and is discussed in Sections 3, 5 and 6.

Table 2-1 Summary of Regulations Pertaining to CIP Projects

Improvement Project	**Regulations**
1. Westerly Taxiway System Improvements	
West Entrance	14CFR FAR Part 77.25(d) FAA Waiver No. 55 AC 150/5300-13, Appendix 16, Table A16-1A, Note 9 AC 150/5300-13, Paragraph 409 (holding bay) AC 150/5300-13, Paragraph 413 AC 150/5300-13, Paragraph 204
Mid Connector	AC 150/5300-13, Paragraph 407 AC 150/5300-13, Paragraph 413 AC 150/5300-13, Paragraph 204
Parallel TW	AC 150/5300-13, Appendix 16, Table A16-1A, Note 9 AC 150/5300-13, Paragraph 204
2. Relocate East End TW	AC 150/5300-13, Appendix 16, Table A16-1A, Note 9 AC 150/5300-13, Paragraph 413 AC 150/5300-13, Paragraph 204
3. Reconstruct Terminal Apron	AC 150/5320-6D, Paragraph 302a
4. Reconstruct Easterly End of Partial Parallel TW	AC 150/5320-6D, Paragraph 302a
5. Install TW Lighting and Construct Electric Vault	DOT/FAA/AR-04/10, Section 4 - AC 150 /5300-13, Paragraph 803,3, d
6. Sightseeing Shack Improvements	
7. Improve Access Road to Approach Lights (MALSF)	AC 150/5300-13, Paragraph 310 Order 6940.1
8. Construct Service Access Roads to AWOS and LES	AC 150/5300-13, Paragraph 310 Order 6940.1
9. Install Perimeter Fence	DHS/TSA June 2006 Guidelines, Part III, Section A <http://www.tsa.gov/assets/pdf/airport_security_design_guidelines.pdf> AC 150/5300-13, Paragraph 614 MassDOT Aeronautics Directive AD-001a, November 14, 2001
10. Expand Auto Parking	*CCC Technical Bulletin 96-003
11. Expand Terminal Building	49CFR Part 1542.103(14) and Part 1544
12. Expand Turf Apron	*

Note: Referenced sections are provided in Appendix 6.
**: Project was developed as part of the 2005 Master Planning Process and in accordance with the Airport's Mission Statement.*

2.3 Airport Capacity Improvement CIP Projects

The purpose of the remaining three CIP project elements is to provide capacity improvements to meet existing and projected demand at the Airport.

10. Expand Auto Parking
11. Expand Terminal Building
12. Expand Turf Apron

The Forecasts included in the 2005 Airport Master Plan Update identify existing and future facility needs. As part of the Airport's master planning process, aviation forecasts were prepared for scheduled aircraft operations and passenger enplanements (boardings). Forecasts of passenger enplanements and scheduled aircraft operations (Cape Air) were used to design the auto parking project and terminal needs. Definitions of all terms are provided in the Glossary.

The Forecasts, along with discussions with the Airport Commission, project that peak hour scheduled operations will increase from 10 in 2004 to 12 in 2024. Peak hour passengers are anticipated to increase at an annual rate of 0.7%, from 92 (2005) during the peak hour to 104 in 2024.

10. Expand Auto Parking

Purpose: Capacity

The purpose of expanding the existing 62 space auto parking area is to more adequately meet existing and future parking needs and reconstruct the deteriorating access road.

Need: Inadequate parking to meet current and future needs.

Recognized guidelines for parking are published for commercial airports similar to PVC by the Institute for Traffic Engineers (ITE), which is the methodology required in the CCC Guidelines for Transportation Impact Assessment, Technical Bulletin 96-003. Current peak period parking space needs range from 62 to 126 spaces over weekdays or weekends. It is projected that for the highest demand period of 2024 on a Saturday during peak season, 145 spaces will be needed. Therefore, there is a need for 75 to 83 additional spaces to meet long term future needs. This range in demand was derived from the recorded enplaning 2005 passengers. Although scheduled flights are often used for parking projections, enplaning passengers were used for the Provincetown Airport. Enplaning passengers is a more accurate projection to use compared to flights, because of the variation in the number of sections in a flight at the Airport and specific operating conditions at the Airport. Parking data observations taken during weekdays in August 2006 and a full week in August 2007 were used for the parking analysis. Observations recorded in the 2008 Supplemental Study were not used in the analysis but were collected to make observations during a holiday week and weekend. Observations taken during weekdays in August 2010 were used to compare relative space requirements observed and recorded previously. These observations were similar to August 2007 recordings.

The proposed two phase parking expansion will meet existing and future needs through the mid term planning period. If the parking demand surpasses the long term projections and Phase 2 is proposed, a new separate EA for Phase 2 would be prepared.

Reference: *ITE Parking Generation Handbook, 2nd Edition, 1987;* CCC Technical Bulletin 96-003; and *March 2006 Traffic Operations Report and Parking Study*

11. Expand Terminal Building

Purpose: Replace lost public use area and meet future demand.

The purpose of expanding the terminal building is to replace passenger area that was displaced by TSA for mandatory passenger screening and security personnel, as well as to meet projected passenger and support needs.

Need: There is inadequate public space for passenger use and support functions.

Public use area in the terminal lobby is needed to replace the area occupied by the TSA screening areas and space for security personnel. The public space has been decreased by 61 percent due to TSA operations that were not incorporated into the design for the current building. The public use area lost to TSA includes the outside porch (650 SF), the indoor passenger waiting area (700 SF), and the inside baggage room (310 SF), totaling more than 1,660 SF. This represents 34 percent of the entire terminal building and 61 percent of the passenger lobby and public waiting areas. The screening of passengers and baggage has resulted in a dramatically reduced public waiting area, as well as reduced areas for other passenger processing functions.

The Planning and Design Guidelines for Airport Terminal Facilities Advisory Circular AC 150/5360-13 indicates that for airports with less than 250,000 enplanements, 150 SF of gross terminal building area per design peak hour passenger is the typical planning criteria. The design peak hour total number of passengers for 2024 would be 104. Applying 150 SF per peak hour passenger yields a terminal area of 15,600 SF. However, this planning criterion would not be appropriate for the Airport, given its seasonal nature and location within the CCNS.

Passenger enplanements are forecast to increase by 0.7 percent annually. Applying this 0.7 percent annual increase to the existing 4,800 SF terminal building plus the reclaimed 1,660 SF lost to TSA (6,460 SF) would yield a minimum 7,430 SF (rounded to 7,500 SF) terminal building spatial need. This area would accommodate the current deficiency of 1,660 SF in public space, as well as an increase in 970 SF to meet the projected twenty-year future demand.

The Airport Commission has included an additional 315 SF of space for a food vendor, 400 SF for the Airport Manager and Commission Office, and 450 SF of space for a conference room, which would result in an 8,595 SF (rounded to 8,600 SF) terminal building. Therefore, the range of terminal building spatial needs would be a range from 7,500 to 8,600 SF.

After considering the location of the Airport within the Cape Cod National Seashore, the limited room for expansion, and the seasonal variation of passenger demand, it was determined that a 7,500 SF to 8,600 SF building would address the passenger needs at the Airport. These areas will be refined during design planning sessions that would include NPS staff, Airport staff, and the Airport Commission.

Reference: 49CFR Part 1542.103(14) and Part 1544 (See Table 2-1 and Appendix 6 for specific sections)

12. Expand Turf Apron

Purpose: Capacity

The purpose of expanding the turf apron is to provide additional space for visiting aircraft during the peak season outside of the taxiway object free area (TOFA).

Construction of the turf apron area was permitted by the DEP Decision on the Request for a Variance, dated May 18, 2001, and a CCC DRI Decision dated April 13, 2000. New survey was completed for the final design phase. When the impact area was recalculated with the updated elevation information, a discrepancy was discovered. In order to build the full turf apron, an additional isolated wetland area would have needed to be filled beyond the amount specified in the Variance. A request to amend the Variance was not prepared because of time constraints relative to funding, construction contracts, and runway closures. Therefore, a smaller turf apron was constructed. The smaller apron does not meet current needs.

Activity at the Airport is highly seasonal with the majority of the Airport's annual aircraft operations occurring during the three-month June-July-August peak summer season. With this concentration of increased operations there is an increase in demand for aircraft parking which creates overcrowding on the aircraft parking apron and increased risk of an operational incident.

Need: Inadequate aircraft parking areas to meet current and future needs.

There is inadequate paved aircraft parking space during the summer and this seasonal overflow demand is accommodated on designated turf areas alongside the taxiway. At times, the Mid Connector taxiway is shut down in order to provide overflow parking. This creates an operational safety issue, due to the hazard of using an aircraft movement area for parking airplanes. Peak hour parking needs at the Airport were evaluated for aircraft parking needs at the Airport. The Airport Manager, FBO staff, and ramp attendants evaluated peak hour parking over a period of four years (2000 through 2004) and estimated that 60 aircraft were parked during the peak hour during this time period. The forecast of peak hour visiting aircraft anticipates an increase of 0.5% annually from 60 in 2004 to 68 in 2024. There is a need to meet this current and future demand. The need for parking ranges from an additional five spaces in the short-term to eight spaces to address the long-term aircraft parking needs.

Reference: *2005 PVC Airport Master Plan*

Table 2-2 Summary of Purpose and Need

CIP Project Element	**Purpose**	**Need**
1. Westerly Taxiway System Improvements	Safety	Does not comply with FAA design and safety standards.
2. Relocate East End TW	Safety	Aircraft are required to back-taxi on active runway.
3. Reconstruct Terminal Apron Within Existing Footprint	Airfield Pavement Maintenance and Safety	Pavement is over 20 years old. Aircraft can be damaged by loose or cracked pavement.
4. Reconstruct Easterly End of Parallel Taxiway	Airfield Pavement Maintenance and Safety	Pavement is over 20 years old. Aircraft can be damaged by loose or cracked pavement.
5. Install TW Lighting and Construct Electric Vault	Safety	Lights and signage are needed to improve safety during nighttime and poor visibility conditions; electric vault is needed to upgrade the reliability of airfield lighting.
6. Sightseeing Shack Improvements	Safety/Maintenance	Building is in need of repair.
7. Improve Access Road To MALSF Approach Lights	Safety	FAA service vehicles must backup over 400 feet on narrow embankment.
8. Construct Service Access Roads to the Localizer Equipment Shelter and to the Weather Station	Safety	The Airport does not have access roads to these FAA facilities per FAA Order 6940.1.
9. Install a Perimeter Safety/Security Fence	Safety and Security	Airport does not comply with security guidelines for Part 107 airports.
10. Expand Auto Parking	Capacity	Peak season demand exceeds capacity.
11 Expand Terminal Building	Replace Lost Public Use Area and Capacity	Peak season demand exceeds capacity. TSA screening areas took 61% of the passenger lobby and public waiting areas.
12. Expand Turf Apron	Capacity	Peak season demand exceeds capacity.

Source: Consultant Evaluations

SECTION 3.0 PROPOSED ACTION AND ALTERNATIVES ANALYSIS

This section describes the Preferred Alternative (Proposed Action), the No Action, and reasonable alternatives (if any). As defined in FAA Order 5050.4B, the Proposed Action is “the solution the airport sponsor wishes to implement to solve the problem(s) it is facing” and all practicable means to avoid or minimize environmental harm from the alternative selected have been adopted. Alternatives to the Proposed Action have been considered and evaluated. An explanation is provided to explain why some alternatives have been judged “not reasonable” and eliminated from further analyses.

This section also identifies the Environmentally Preferred Alternative. In accordance with NEPA, NPS and FAA are required to identify the “environmentally preferred alternative”. The Environmentally Preferred Alternative is defined by the Council on Environmental Quality (CEQ) as “the alternative that will promote the national environmental policy as expressed in NEPA, Section 101(b)”. In general, the Environmentally Preferred Alternative is the alternative that causes the least damage to the biological and physical environment and that best protects, preserves, and enhances historic, cultural and natural resources. The Environmentally Preferred Alternative is not necessarily the Preferred Alternative.

The environmentally preferred alternative includes alternatives that achieve the following goals:

- Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;
- Assure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings;
- Attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences;
- Preserve important historic, cultural and natural aspects of our national heritage and maintain, wherever possible, an environment which supports diversity and variety of individual choice;
- Achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities; and
- Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

The CIP projects include both safety/security projects and capacity projects. In order to evaluate the projects for the Environmentally Preferred Alternative in terms of the above-listed goals, the grouping of projects was further differentiated to identify projects occurring within an existing footprint (footprint reconstruction projects), operational safety projects that were related to Part 77 navigational airspace, ground operational safety projects, and impact area of the project. Each Environmentally Preferred Alternative has been chosen based on the goals of NEPA, with the aid of these additional criteria.

The projects discussed are:

3.1 Westerly Taxiway System Improvements
3.2 East End TW Relocation
3.3 Terminal Apron Reconstruction
3.4 Easterly End of Parallel TW Reconstruction
3.5 TW Lighting, Lighted TW Signs, and Electric Vault Installation

3.6 Sightseeing Shack Improvements
3.7 Access Road to MALSF Approach Lights Improvements
3.8 Service Roads to LES and AWOS Construction
3.9 Perimeter Safety/Security Fence Installation
3.10 Auto Parking Expansion
3.11 Terminal Building Expansion
3.12 Turf Apron Expansion

3.1 Westerly Taxiway System Improvements

This FEIR/EA evaluates the potential impact of improving the westerly end of the TW system at the Airport. The sub elements of the Westerly Taxiway System consist of the West End Connector Taxiway, the Westerly End of Parallel Taxiway, and the Mid Connector Taxiway. Two alternatives will be analyzed for environmental impacts in Section 5, and two alternatives have been considered but rejected. The two alternatives analyzed are the No Action alternative and an alternative that would construct westerly TW system improvements. The alternatives that have been considered for the project are illustrated on figures provided at the end of this section.

3.1.1 No Action

The No Action alternative would maintain the West End TW in its current location and does not address the operational safety issues discussed in the Purpose and Need (Section 2). The taxiway would continue to be located within the clear zone in the approach for Runway 7, which creates the potential for collision between a landing aircraft and a plane waiting to takeoff. Aircraft would continue to taxi onto the runway parallel to the runway end and out of visual contact with approaching aircraft. Aircraft would continue to hold short of the runway which limits their view of the runway and other aircraft.

The No Action alternative would maintain the jog in the parallel taxiway, would not replace the pavement which is in poor condition, and would not address the operational safety issues discussed in detail in Section 2. The pavement is over 20 years old and in poor condition. Paved surfaces at airports must be maintained in good condition. Airfield pavement standards estimate a useful lifespan of 20 years, after which pavement is eligible for reconstruction.

The No Action alternative would maintain the existing Mid Connector TW with the non standard jug-handle intersection with the runway and the parallel taxiway. It would also not align properly with the proposed relocated West End TW and the proposed realigned westerly end of the parallel TW. No impacts to natural resources would occur with the No Action alternative because there would be no construction or change in current conditions.

3.1.2 Westerly TW System Improvements (Proposed Action and Preferred Alternative)

The sub elements of the Westerly Taxiway System consist of:

A. West End Connector Taxiway
B. Westerly End of Parallel Taxiway
C. Mid Connector Taxiway

The sub elements are discussed individually but will be combined as one project in terms of permitting and construction because the elements would be constructed at the same time.

(A.) Relocate West End Taxiway with Standard Right Angle Out of the Runway 7 Approach

The alternative to relocate the West End TW would address the operational safety issues and would be in compliance with FAA design standards. The taxiway would connect with the end of the runway at a right angle and would be located out of the approach for the runway.

(B.) Realign Westerly End of Parallel Taxiway

This alternative would shift the westerly end of the parallel TW to meet the existing edge of pavement of the easterly portion of the parallel TW. A run-up pad, as required by FAA design standards for new construction, would also be constructed at the end for aircraft to perform required engine and systems checks before takeoff, without blocking the taxiway.

The parallel TW would be reconstructed with a consistent width of 40 feet. Since the pavement width is currently 60 feet, pavement would be removed. Cultural Grassland habitat would be restored in areas of pavement removal.

(C.) Realign Mid Connector TW

The alternative to realign the Mid Connector TW would provide a standard 90 degree intersection design. The aging pavement would also be reconstructed to address the hazard of loose pavement causing harm to aircraft and passengers. The project would be constructed within the existing area of pavement and managed Cultural Grassland habitat.

Collectively, the three elements of the Preferred Alternative for the Westerly TW System Improvements (shown on Figure 3.1) would result in alterations to approximately 28,655 SF of freshwater wetlands, 6,400 SF of coastal dune, and temporary impacts to grassland and rare species habitats for one or more state-listed species. Proposed mitigation measures, as discussed further in Section 7.0, would provide restoration of these habitats and implement construction phase mitigation measures.

3.1.3 Environmentally Preferred Alternative

After review, the Westerly Taxiway System Improvements (Preferred Alternative) is the Environmentally Preferred Alternative. The Preferred Alternative would result in a net loss of pavement (See Table 5-2 in Section 5) and includes mitigation to restore areas of wetland and coastal dune impacted by the project. The overall net loss in pavement from all taxiway projects is approximately 42,200 SF. The current state of the taxiway is a hazard to aviators and passengers, and is a risk to the safety of those traveling to and from the Airport, as Airport operation in this area involves runway activity and airplanes in flight (as opposed to ground operations such as taxiing). Constructed improvements are necessary to address the Part 77 navigable airspace safety and operational issues of the West End TW that is currently within the approach to RW 7. These improvements will restore and maintain operational safety within the Part 77 airspace. Additionally, measures to minimize adverse impacts to wetlands and coastal dunes such as steepened slopes have been incorporated into the design, and construction period mitigation measures such as erosion control and construction timing will be implemented to reduce overall impact. An invasive species management plan would also be implemented to preserve an environment that supports the natural diversity found within the CCNS. Permitting agencies will issue permits with the condition that wetland mitigation is monitored and repaired, if not successful.

Among the alternatives considered, the West End Taxiway Improvements would ultimately attain the greatest balance between the human population, the operational safety needs for the Airport, and the surrounding natural environment.

3.1.4 Alternatives Considered But Rejected

Existing Footprint Alternative
The alternative that would reconstruct the West End TW within the existing footprint was suggested by others during the ENF comment period as a way to minimize impacts to wetland and grassland habitats. This alternative would provide a standard right angle connection to the runway, but the taxiway would continue to be located within the approach to Runway 7, as illustrated on Figure 3.1. Likewise, the risk of collisions would not be reduced because aircraft would continue to enter parallel to the runway end, rather than perpendicular to the end of the runway.

This alternative would have unavoidable impacts to approximately 13,665 SF of freshwater wetlands in Wetlands I and C/J/FK, as well as additional impacts to grassland habitat.

The alternative that would reconstruct the existing TW footprint with a standard right angle within the existing footprint has been deemed unsafe and unfeasible because it would not comply with the FAA safety and design standards and it would not address existing operational safety issues. This alternative has been dismissed from further review.

Lights on Existing Parallel TW Alternative
It was suggested in the comments on the ENF that installation of taxiway lights alone on the existing taxiway could address the safety issues relative to the jog in the partial parallel taxiway. Environmental impacts with this alternative would be limited to minor impacts to grassland habitat. However, pilots do not expect to encounter a jog mid-way along a parallel taxiway. Installation of edge lights would not fully eliminate the non-standard hazardous condition of maneuvering the aircraft through an unexpected turn at night and in bad weather conditions, and would not correct the operational safety issues created by the misaligned pavement. This alternative has been dismissed from further review.

3.2 East End TW Relocation

Two alternatives for the East End Taxiway improvements have been analyzed within this FEIR/EA, including the No Action alternative and an alternative that would relocate the East End TW to connect with the end of Runway 25. The alternative that has been considered for the project is illustrated on Figure 3.2, provided at the end of this section.

3.2.1 No Action

The No Action alternative would maintain the 200-foot offset between the end of Runway 25 and East End TW. Aircraft would continue to back-taxi on the active runway maintaining the current unsafe conditions by possibly interfering with landing aircraft. No impacts to natural resources would occur with the No Action alternative because there would be no construction or change in current conditions.

3.2.2 East End TW Relocation (Proposed Action and Preferred Alternative)

The alternative to relocate the East End TW to connect with the end of the runway would be in full compliance with FAA mandated design standards without impacting the terminal apron. There would be a slight curve in the East End TW centerline to avoid aircraft on the terminal apron. This configuration would not present a safety hazard because the terminal apron is well lit with overhead lighting, and planes are moving slowly as they enter the East End TW. Implementation of this alternative would result in alterations to approximately 28,300 SF of freshwater wetlands (Wetland B), and approximately 5,000 SF of coastal dune. It would also be within managed Cultural Grasslands, with potential impacts to rare species habitat.

3.2.3 Environmentally Preferred Alternative

Of the alternatives considered for the East End Taxiway, the East End TW Relocation alternative (Preferred Alternative) is the Environmentally Preferred Alternative. While this alternative involves construction, relocating the current configuration of the taxiway will greatly reduce the significant safety hazard that the current configuration presents to aviators and passengers traveling to and from the Airport. The Preferred Alternative will address the Part 77 navigable airspace safety and operational issues of the East End TW that currently requires planes to back taxi on the active runway. As operations within the East End TW involve runway activity and airplanes in flight, the relocation of the taxiway is required to restore the necessary level of safety in this area to avoid potential undesirable and unintended consequences, while maintaining the diversity of natural resources at the Airport, to the fullest extent possible.

The preferred alternative includes mitigation to restore areas of wetland and coastal dune impacted by the relocation of the taxiway. Overall, the wetland mitigation plan for the CIP projects results in 1.3:1 on site replication, with the addition of invasive species management for several species and a special wetland enhancement management program for *Phragmites*, which will have a beneficial impact on wetlands at the Airport. Measures to minimize adverse impacts to wetlands and coastal dunes such as steepened slopes have been incorporated into the design, and construction period mitigation measures will be implemented such as erosion control and time of construction to reduce overall impacts. An invasive species management plan will also be implemented to preserve an environment that supports the natural diversity found within the CCNS. Permitting agencies will issue permits with the condition that wetland mitigation is monitored and repaired, if not successful. The East End TW Relocation would ultimately attain the greatest balance between the human population, the need to restore operational safety for the Airport, and the natural environment.

3.2.4 Alternatives Considered But Rejected

No other alternatives were identified.

3.3 Terminal Apron Reconstruction

In accordance with MEPA and NHESP, the Terminal Apron Reconstruction has been included in this FEIR/EA to avoid segmentation, although NEPA does not require this project to be included in the FEIR/EA. This project was allowed to go forward because it would have no impacts. This FEIR/EA evaluates two alternatives for reconstruction of the Terminal Apron pavement, including the No Action alternative and an alternative that would reconstruct the Terminal Apron pavement.

3.3.1 No Action

The No Action alternative would retain the existing pavement, and would not address the Airport safety issues associated with deteriorated pavement. As previously noted, paved surfaces at airports must be maintained in good condition and are eligible for reconstruction after 20 years. No impacts to environmental resources would occur as a result of the No Action alternative because the pavement would not be reconstructed adjacent to wetland or coastal dune resources.

3.3.2 Reconstruct Terminal Apron within the Existing Footprint (Proposed Action and Preferred Alternative)

The Preferred Alternative would reconstruct the terminal apron pavement within the same footprint to address Airport safety issues. As there would be no environmental impacts, and the implementation of this project element would neither preclude or constrain considerations for all other CIP elements, the Secretary of Energy and Environmental Affairs allowed the Airport to proceed with the reconstruction of the Terminal Apron within the same footprint prior to the completion of the FEIR as iterated in the MEPA Certificate issued on the NPC/DEIR.

The Airport applied for an Order of Conditions (OOC) from the Provincetown Conservation Commission. Coordination was also carried out with staff at the Massachusetts Natural Heritage & Endangered Species Program (NHESP) regarding requirements under MESA, and this project qualifies as an exempt project pursuant to 321 CMR 10.14 (8): “the maintenance, repair or replacement, but not widening of existing paved roads, …and paved parking areas,...” NHESP reviewed and commented as part of the Notice of Intent (NOI) process under the Wetland Protection Act. The project will, however, be included in the Massachusetts Endangered Species Act (MESA) application for the Airport’s CIP projects to avoid segmentation. The project was issued an OOC (DEP File No. 058-0440), and construction was completed in fall 2008.

3.3.3 Environmentally Preferred Alternative

Upon review of the Terminal Apron alternatives, the Terminal Apron Reconstruction within the Existing Footprint has been selected as the Environmentally Preferred Alternative. This reconstruction project (completed in 2008) was limited to the repavement of the existing paved areas within the same footprint, and there were no impacts to adjacent cultural or natural resource areas. The reconstruction of the Terminal Apron addressed the ground operation safety issues to taxiing aircraft posed by the deteriorating state of the Terminal Apron pavement. Of the alternatives considered, the Terminal Apron Reconstruction best achieved the balance between restoring the safety and productivity of the Airport while protecting the surrounding natural environment (as the project did not impact resource areas). If the Terminal Apron was not reconstructed, it would yield increasing safety concerns for pilots and passengers.

3.3.4 Alternatives Considered But Rejected

No other alternatives were identified.

3.4 Easterly End of Parallel TW Reconstruction

Two alternatives were evaluated in this FEIR/EA for reconstructing the easterly end of the Parallel TW pavement, the No Action alternative and an alternative that would reconstruct the pavement.

3.4.1 No Action

The No Action alternative would retain the existing pavement which is over 20 years old and in poor condition. Pavement at airports is required to be maintained in good condition. The No Action alternative would result in increasing safety concerns for pilots and their passengers. There would be no impacts to environmental resources with the No Action alternative because there would be no pavement reconstruction near wetland or other natural resources.

3.4.2 Reconstruct Parallel TW within Existing Footprint (Proposed Action and Preferred Alternative)

The Preferred Alternative would reconstruct the pavement within the same footprint, but with a reduced pavement width of 40 feet. Grassland habitat would be restored in the pavement removal areas. As this project element would occur within the existing footprint and there would be no environmental impacts as a result of its implementation, the Certificate issued on the NPC/DEIR by the Secretary of Energy and Environmental Affairs allowed the Airport to proceed with the reconstruction of the easterly end of the parallel TW within the same footprint prior to the completion of the FEIR. However, construction of this project element would likely be carried out in conjunction with the West End Taxiway Improvements.

3.4.3 Environmentally Preferred Alternative

The Environmentally Preferred Alternative is the Reconstruction of the Parallel TW within Existing Footprint (Preferred Alternative). The project will not impact wetlands or other natural resources because it will occur within the footprint of the existing Parallel TW. The reconstruction of the parallel taxiway would reduce the pavement width, result in an overall reduction of impervious surfaces at the Airport, and restore a level of safety to ground operations in this area. Timing of construction and erosion controls will be implemented to protect adjacent resources and listed species. This alternative will increase the safety and productivity of the human environment at the Airport while also enhancing the quality of the surrounding natural environment. Areas gained by the pavement reduction would be restored to grassland habitat that is important to state-listed rare Vesper Sparrows, thereby increasing and enhancing environmental resources at the Airport. Reconstruction achieves the greatest balance between preserving the safety and productivity of the Airport as well as protecting the surrounding natural environment.

3.4.4 Alternatives Considered But Rejected

No other alternatives were identified.

3.5 Taxiway Lighting and Electric Vault

This FEIR/EA evaluates the potential impact of installing taxiway edge lights and lighted TW signs, and constructing a new electric vault. Two alternatives will be analyzed for environmental impacts in Section 5, and two alternatives have been considered but rejected. The two alternatives analyzed are the No Action alternative and an alternative that would install edge lights and construct an electric vault adjacent to the existing Sightseeing Shack. It should be noted that construction of the Electric Vault would be considered a Connected Action (per NPS DO-12) to the Sightseeing Shack improvements (see Section 3.6 below), as the two elements are closely related and interdependent. The alternatives that have been considered for these project elements are illustrated on Figure 3.3 provided at the end of this section.

3.5.1 No Action

Implementation of the No Action alternative would maintain the taxiway edge reflectors and not upgrade the electric equipment that would remain inside the Sightseeing Shack. There would be no environmental impacts as a result of the No Action alternative because there would be no construction or disturbance within the managed grasslands.

3.5.2 Install TW Lighting and Lighted TW Signs, and Construct Electric Vault (Proposed Action and Preferred Alternative)

Install TW Lighting and Lighted TW Signs

The alternative to install TW edge lights would locate the lights 10 feet off the edge of pavement along the entire length of the taxiway as required by FAA design standards, and lighted TW signs would be installed to identify the locations of each TW. The electric cable for the lights and TW signage would be installed within the existing mowed grassland habitat using the cable plowing method, as described in Section 5.6.2.5. The area would be restored as grassland. Construction timing and other construction mitigation measures would minimize rare species habitat impacts. Lighting is controlled by pilots remotely and would only be operational during landings and takeoffs under inclement weather conditions or at night. Disruptions to Vesper Sparrows or other species are anticipated to be minimal and would be no different than the existing lighting system for the runway.

Construct Electric Vault

With the Preferred Alternative, the constructed Electric Vault would be located immediately adjacent to the Sightseeing Shack (Alternative 1) in an area of managed grassland, which is isolated from larger expanses of grassland habitat at the Airport. Electric equipment currently housed within the Sightseeing Shack would be upgraded to current electric codes and housed within a new vault adjacent to the Sightseeing Shack. The location of the Electric Vault under the Preferred Alternative would be close to the existing electrical service and equipment, which would minimize the distance for the new main cable connection. Environmental impacts would be minimal.

3.5.3 Environmentally Preferred Alternative

The Environmentally Preferred Alternative for this CIP project is the No Action alternative, solely because it does not involve a safety project within Part 77 navigable surfaces nor does it occur within an existing footprint. The safety and operational issue pertains to taxiing aircraft and ground operations. While the proposed project would result in operational safety improvements along the taxiway as well as electrical improvements, it would entail the construction of an additional structure (Electric Vault) and the installation of TW edge lights and signs along the taxiway. The No Action alternative will not involve a new structure or lighting and cultural grasslands would not be disturbed.

However, the No Action alternative will not address the need to bring the existing electric equipment up to current electrical design criteria. The Preferred Alternative for the installation of the taxiway lights would have negligible impacts to adjacent managed grasslands because the cable installation method which has little ground disturbance will be used. As discussed in Section 3.5.2, the trenching construction method will not be used. Impacts to grassland habitat would be negligible for the location of the proposed electric vault, as it would be located in an area previously determined to be of little significance as habitat due to its isolated location with respect to the expanse of grassland habitat at the Airport.

3.5.4 Alternatives Considered But Rejected

Alternative Construction Method for Light Installation

The trenching construction method for the cable adjacent to the TW would excavate a trench approximately eight inches wide by two feet deep to install the electric cable, and would result in more grassland disturbance compared to the cable method. This construction component alternative has been dismissed from further review.

Alternative Vault Locations

Two alternatives were considered for the location of the proposed Electric Vault. Alternative 2 would locate the vault behind the paved GA apron. Alternative 3 would locate the vault at the far west end of the paved GA apron. Each of these alternatives would result in environmental impacts within an area of managed cultural grassland that is contiguous with expanses of this habitat at the Airport and/or impacts to freshwater wetlands (Wetland C) in order to accommodate the conduit for the cable, which would need to avoid other underground utilities in the area. The Preferred Alternative meets the project need with fewer impacts. These alternatives have been dismissed from further review.

3.6 Sightseeing Shack Improvements

Two alternatives have been evaluated in this FEIR/EA for the proposed improvements to the Sightseeing Shack and will be carried forward through the analysis for environmental consequences in Section 5. The two alternatives analyzed are the No Action alternative and an alternative that would repair or replace the building within the existing footprint. It should be noted that improvements to the Sightseeing Shack would be considered a Connected Action to the Installation of TW Lighting and Lighted TW Signs, and Construct Electric Vault (see Section 3.5 above), as the improvements to the Sightseeing Shack would be tied to the relocation of the electrical equipment that is currently housed within the Sightseeing Shack.

3.6.1 No Action

The No Action alternative would allow the existing structure to remain in its present condition, housing the existing electrical equipment that is not up to current electric codes. No impacts would occur to natural resources under the No Action alternative because there would no construction adjacent to natural resources and no change to the building.

3.6.2 Repair or Replace Building (Proposed Action and Preferred Alternative)

Under this alternative, following the relocation of the existing electrical equipment, the Sightseeing Shack would either be repaired (Preferred Alternative), or the walls would be replaced, as necessary. No long-term environmental impacts would occur as a result of this action. The Massachusetts Historical Commission (MHC) has determined that the building is not historically significant (see Section 10.1).

3.6.3 Environmentally Preferred Alternative

Upon consideration of the alternatives presented for this CIP project, the Repair or Replacement of the Building (Preferred Alternative) has been selected as the Environmentally Preferred Alternative, as all work will occur entirely within the footprint of the existing Sightseeing Shack. The structural integrity of the existing structure is deteriorating and poses a safety concern to those at the Airport. If the structure was not repaired, undesirable or unintended consequences may occur. The repair of the Sightseeing Shack would restore the structure to its original state and increase the safety of persons using the structure while improving the overall aesthetic value of the Airport. Of note, the building is not considered a state or federal historic structure. Furthermore, the repair of this building will not impact nearby natural resource areas.

3.6.4 Alternatives Considered But Rejected

No other alternatives were identified.

3.7 Access Road to MALSF Approach Lights

This FEIR/EA evaluates the potential impact of improving the access road to the MALSF approach lights. Two alternatives will be analyzed for environmental impacts in Section 5, including the No Action alternative and an alternative that would construct a turn-around. Three alternatives have been considered but rejected. Alternatives considered for this project element are illustrated on Figure 3.4 provided at the end of this section.

3.7.1 No Action

The No Action alternative would maintain the existing narrow access road. As a result, vehicles accessing the MALSF for maintenance or repairs would continue to back up for a distance of approximately 400 feet along the narrow access road. The associated safety issues discussed in Section 2 would not be addressed. There would be no environmental impacts associated with the No Action alternative because there would no construction within the wetland resource.

3.7.2 Construct Turn-Around (Proposed Action and Preferred Alternative)

The Preferred Alternative would involve the construction of a turn-around area, such that vehicles would not have to back up the length of the narrow access road. The proposed turn-around area would be 30 feet wide and 30 feet long to provide enough space for a vehicle to safely reverse direction. The turn-around area would impact approximately 960 SF of freshwater wetlands (Wetland C/J/FK), and would be constructed along the north side of the embankment so that it would not interfere with the approach lights. The material used to construct the turn-around would be structural base material with gravel fill, approved by the Engineer and brought to the site. The top finish layer could be obtained from excavated areas on site. No material would be excavated from the adjacent wetland area for fill material and any material brought to the site will be from a certified archeological object-free and weed-free source. Proposed compensatory mitigation for lost wetland area would be provided on-site at a 1:1 ratio (see Figures 7.1-7.4). Additional mitigation measures will include construction phase mitigation measures.

3.7.3 Environmentally Preferred Alternative

After review, the No Action alternative has been selected as the Environmentally Preferred Alternative solely because the project does not involve operational safety improvements for aircraft operations within Part 77 navigable surfaces nor will it occur within an existing footprint. Additionally, under the No Action alternative there would be no construction and wetlands would not be altered. The safety and operational issue is ground operation-related and affects vehicles accessing the navigational lighting system.

3.7.4 Alternatives Considered But Rejected

Reduced Turn-Around Footprint with Curbing
A smaller turn-around area with curbing installed along the length of the access roadway to alert drivers to the limits of the roadway width was considered. This alternative would reduce but not eliminate direct wetland impacts. Additionally, even something as low as a concrete curb could not be installed as it would constitute a vertical penetration into the Runway 7 approach surface, and would not be allowed under FAA regulations. This alternative has been dismissed from further review.

Guardrail
Installation of a guardrail along the length of the existing access roadway was also considered as an alternative, but was deemed unfeasible because of the vertical penetration into the Runway 7 approach surface. Any objects required to be located within this object free approach area must be frangible (able to be snapped off on impact), which would defeat the function of a guardrail. In addition, the roadway embankments would need to be widened to accommodate the construction of the guardrail without losing width along the roadway, necessitating additional wetland alteration. This alternative has been dismissed from further review.

Acquire a Utility Vehicle
The Airport has considered acquiring a utility vehicle for the purposes of accessing the MALSF equipment for maintenance or repair, suggested by others during review of the DEIR/EA. This alternative would not result in additional environmental impacts. This alternative would require FAA personnel to transfer their equipment to a smaller utility vehicle. However, the alternative is impractical because FAA personnel need access to all equipment in their vehicles during all weather conditions, and could not feasibly transfer all the equipment to a small utility vehicle. The runway is required to be shut down for certain inspection or maintenance procedures, and transferring necessary equipment, which would not all fit within a smaller vehicle at one time, would result in potential unnecessary delays at the Airport. This alternative has been dismissed from further review.

Construct Shoulders (Option 1)
This alternative would widen the entire length of the MALSF access road embankments to construct 2-foot shoulders on each side of the existing access road. This alternative would impact approximately 1,800 SF of Wetland C/J/FK, and would not eliminate the safety hazard of vehicles needing to back up for 400 feet. This alternative has been dismissed from further review.

3.8 Service Access Roads to the Localizer Equipment Shelter (LES) and to the Weather Station (AWOS)

Three alternatives were analyzed for the Service Access Roads to the LES, including the No Action alternative, an alternative that would construct an access road to the LES behind the hold line and off the East End TW (Alternative 2), and an alternative that would construct an access road off Race Point Road (Alternative 6). Two alternatives were analyzed for the Service Access Roads to the AWOS, including the No Action alternative and an alternative that would construct an access road to the AWOS behind the hold line and off the East End TW (Alternative 2). Several alternatives have been considered but rejected for these two project elements: All alternatives considered for these projects are illustrated on Figures 3.5, 3.6, and 3.7 provided at the end of this section.

3.8.1 No Action

The No Action alternative would retain the lack of defined access routes to both the LES and the AWOS, which essentially prevents vehicle access to the sites other than within the runway operating area. Although there are a few circumstances when service on the AWOS requires the runway to be shutdown, most inspection and maintenance operations are carried out while the runway is active. There would be no impacts to wetlands and coastal dunes because access roads would not be constructed.

3.8.2 Service Access Road to AWOS Alternative 2 and Service Access Road to LES Alternative 2 (Proposed Action and Preferred Alternative)

The Preferred Alternatives for these CIP project elements would construct 10-foot wide defined access roadways that would be paved for the first 300 feet off the East End TW in full compliance with FAA standards. The access road to the AWOS would necessitate alterations to coastal dune and wildlife/rare species habitat (10,560 SF) and 290 SF of wetland alteration within Wetland H. The LES access road would require alterations to 7,610 SF of coastal dune habitat. Proposed mitigation measures, including construction and timing measures, and compensatory mitigation for the loss of natural resources is part of the design of this alternative.

3.8.3 Service Access Road to AWOS Alternative 2 and Service Access Road to LES Alternative 6

This combination of alternatives for the access roadways would construct a 10-foot wide roadway extending from the East End TW (again, paved for the first 300 feet) for the AWOS access roadway, with construction of a dense packed gravel surface (i.e., unpaved) roadway off of Race Point Road for access to the LES. This would result in alterations to 10,560 SF of coastal dune and wildlife/rare species habitat, and 290 SF of wetland alteration within Wetland H. Somewhat reduced alterations to coastal dune habitat (2,500 SF) will occur as a result of the LES access roadway.

3.8.4 Environmentally Preferred Alternative

The Environmentally Preferred Alternative for this CIP project is the No Action alternative because the project does not involve operational safety improvements for aircraft operations within Part 77 navigable surfaces and will not occur within an existing footprint. The No Action alternative would not result in construction, and wetland and coastal dune resources would not be altered. The safety and operational issue pertains to vehicles accessing the weather station and the localizer equipment.

Although the No Action Alternative would not involve construction within wetlands and coastal dunes, this alternative would not address the operational safety issues resulting from the lack of designated access roads to the airfield equipment. The No Action alternative would not eliminate the tracking of foreign materials onto the runway and taxiways, which presents a safety hazard to users at the Airport. The No Action alternative is not the Preferred Alternative. The Preferred Alternative for the project includes measures to minimize adverse impacts to wetlands and coastal dunes such as steepened slopes and a narrower road width. Construction period mitigation measures will be implemented such as erosion control and time of construction to reduce overall impacts.

3.8.5 Alternatives Considered But Rejected

Pavement Alternatives

The alternative of constructing the roads with a porous pavement was evaluated. Porous pavement is a special type of pavement that allows rain and snowmelt to pass through, reducing runoff. However, these pavements require an intensive maintenance schedule and can easily become clogged with sands. Additionally, the pavement is damaged by freezing and thawing in the northern climates. Alternative types of pavement that can be colored (e.g., Natural Pave®, a sand-colored pavement, etc.) were also evaluated. These proprietary products have not been tested for durability under airport pavement standards. Because of the maintenance and durability issues, porous and other types of pavement has been dismissed from further review.

Acquire Utility Vehicle

In response to comments received on the NPC/Draft EIR/EA, the Airport has considered the use of an off-road utility vehicle for access to the AWOS and LES. As with the use of a utility vehicle for the MALSF, this alternative has been deemed unfeasible because FAA personnel need access to all equipment in their vehicles and cannot feasibly transfer all the equipment to a smaller utility vehicle. This alternative has been dismissed from further review.

LES Alternative 1

Similar to the Preferred Alternative, LES Alternative 1 connects with the East End TW. The road would be approximately 475 feet long and would be paved in compliance with FAA standards (e.g., paved for the first 300 feet). Alterations would occur within a small amount of coastal dune and cultural grassland habitat. This alignment would be in compliance with FAA standards and would meet the project purpose and need, but would not line up with the Preferred Alternative identified for the AWOS road, which is preferable. This alternative has been dismissed from further review.

LES Alternative 3

Alternative 3 for the LES extends from the employee parking lot driveway adjacent to the gravel pathway that marks the location of the primary service power cables to the NAVAID facilities. This access roadway would be paved and would impact approximately 3,600 SF of isolated wetland in Wetland B. To minimize wetland impacts in this area, the possibility of following the existing narrow path from the driveway to the LES was considered. However, the primary service power cable to the NAVAID facilities is located within this alignment and must be avoided. Alternative 3 has been deemed unfeasible because it would result in wetland impacts that can be avoided, and impacts the power cable. This alternative has been dismissed from further review.

LES Alternative 4

The alignment for LES Alternative 4 would extend from the end of the runway at the Runway 25 End, and has a direct connection with the active runway operating area. This alternative would impact a small amount of cultural grasslands, and coastal dunes, and associated habitat areas. Construction of new access roads in locations that require vehicles to travel within the active runway operating area do not meet FAA design standards and would not be allowed. This alternative has been dismissed from further review.

LES Alternative 5

As with LES Alternative 4, this alignment has a direct connection with the active runway operating area and would result in alterations within a small amount of cultural grasslands, coastal dunes, and associated habitats. Construction of new access roads in locations that require vehicles to travel within the active runway operating area do not meet FAA design standards and would not be allowed. This alternative has been dismissed from further review.

AWOS Alternative 1

Alternative 1 for the AWOS access road connects with the East End TW. The road would be approximately 800 feet long and would be paved in compliance with FAA standards. Alternative 1 would impact approximately 440 SF of Wetland H and impact a small amount of coastal dunes. This alternative would align with the LES Alternative 1, but has been dismissed from further review, because a shift in the alignments of both access roadways would reduce wetland impacts.

AWOS Alternative 3

Alternative 3 would connect with the parallel taxiway and, as with all of the alternatives for the access roadways, would be paved for 300 feet. Approximately 3,000 SF of Wetland H would be altered for this alternative, as well as a small amount of cultural grasslands. Because other alignments would have smaller wetland impacts, this alternative was dismissed from further review.

AWOS Alternative 4

Similar to the LES Alternatives 4 and 5, this alignment has a direct connection with the active runway operating area, which would not meet FAA design standards and would not be allowed. This alternative would result in alterations to coastal dune (3,480 SF), a small amount of grassland habitat, and Wetland H (720 SF). This alternative has been dismissed from further review.

AWOS Alternative 5

The L-shaped configuration of this alternative alignment would result in alterations to 9,840 SF of cultural grassland habitat and 720 SF of Wetland H. As with AWOS Alternative 4, this alignment has a direct connection with the active runway operating area (between the runway and the hold line of the taxiway), which would not meet FAA design standards and would not be allowed. This alternative has been dismissed from further review.

3.9 Perimeter Safety/Security Fence

Seven alternatives have been evaluated for the construction of a Perimeter Safety/Security Fence, four of which are carried forward and analyzed for environmental impacts in Section 5. Three alternatives have been considered but rejected. The four alternatives analyzed are the No Action alternative, Concept 6 (Final Preferred Alternative), Concept 4, and Concept 1 (Preferred Alternative in Draft EIR/EA). It should be noted that Concept 1 has been dismissed but has been carried forward to the impact analysis because it was the preferred alternative in the DEIR and must be retained to comply with NPS NEPA procedures. The alternatives that have been considered for this project element are illustrated on Figures 3.8 and 3.9 provided at the end of this section.

3.9.1 No Action

The No Action alternative would have no direct impacts to the natural resources or habitats at the Airport because clearing for the fence and construction of the fence would not occur. However, the No

Action alternative would not address the operational safety and security, visitor safety, and wildlife safety issues discussed in Section 2. The potential for deer and other (non-avian) wildlife to continue to come into conflict with operating aircraft, jeopardizing the safety of passengers and pilots using the Airport, would remain. Unauthorized persons would continue to have undeterred access to the currently unsecured airport operating area, and recreational users (including hunters) would remain a potential threat to the health and safety of aircraft operations and those using the Airport facilities. It may also be noted that TSA and MassDOT ban the possession of firearms in aircraft operational areas.

3.9.2 Perimeter Safety / Security Fence Concept 6 (Proposed Action and Preferred Alternative)

Following the alignment shown on Figures 3.8 and 3.9 at the end of this section, Concept 6 would involve the construction of an 11,700 linear foot (LF), 8-foot high, black vinyl chain link security fence with 2 inch openings topped with an additional foot consisting of 3 strands of barbed wire for a total height of nine feet. The fence would traverse areas of coastal dune (8,060 SF direct; 24,028 SF indirect) and freshwater BVW wetlands (1,152 SF direct; 8,972 SF indirect), and Isolated Vegetated Wetlands (25,648 SF direct; 3,952 SF indirect), and directly and indirectly alter wildlife and rare species habitats. Direct impacts to natural resources would involve alterations associated with the installation of fence posts, while indirect alterations would be associated with the proposed 4-foot wide swaths of managed vegetation on both sides of the fence, which are required to be clear of trees and tall shrubs that may otherwise jeopardize the fence integrity. These areas would be either brush hogged or trimmed but would not be graded. The cleared areas would allow for inspection of the fence. This alignment, which is in close proximity to the taxiway on the north side and existing maintained areas to the south, would eliminate the need for construction of patrol roads. Since July of 2009, significant agency coordination and field site work has been completed relative to refining the alignment of the preferred alternative, Concept 6. The fence alignment is shown on scaled plans that have been field checked and are accurate enough for permitting. The final precise location of the fence would be determined in the field prior to construction as directed by staff of NHESP, NPS, and other permitting agencies, in order to minimize to the fullest extent possible impacts to wetlands while at the same time preserving critical buffer. The fence would connect with the existing sections of fence adjacent to the bike path and the SRE building. Additionally, Concept 6 would eliminate fencing at the west end around the ILS.

Approximately 113 acres would be separated from remaining areas of the CCNS with Concept 6 fence area. The majority of the area consists of airport infrastructure (paved runway and taxiways, buildings, parking areas, navigational aids, and managed safety areas). Additionally, the western-most end around the ILS would not be enclosed, thus eliminating direct impacts within tidally-influenced portions of Wetland C/J/FK. In consultation with NHESP, the fence design would also have gaps along the bottom to allow for the movement of Eastern Box Turtles, minimizing impacts to the movements of this state-listed rare species as well as other small animals.

The fence design, 9 feet tall (total) topped with barbed wire, would deter deer from jumping the fence. Although deer can jump higher than 9 feet, the angled wire on top makes it difficult for them to judge the height of the fence. Additionally, cleared areas along the fence would allow deer to run along the outside of the fence (rather than jump the fence onto the active airfield if alarmed). Although the Preferred Alternative results in avoidable impacts, proposed mitigation and design modifications have avoided and minimize impacts to the fullest extent feasible.

3.9.3 Perimeter Safety / Security Fence Concept 4

Concept 4 would involve the construction of an approximately 15,400 LF fence of similar design to that of the Preferred Alternative. However, this fence alignment would enclose the approach light system, completely enclosing the Airport facilities. Direct (50 SF Isolated, 540 SF BVW) and indirect (5,670 SF Isolated, 43,080 SF BVW SF) alterations to wetlands as well as alterations to coastal dunes and associated habitats would occur with Concept 4. This concept would meet the project purpose and would not impact Airport operations or protected operational and navigational surfaces and object free areas. However, it would have impacts to tidal flow in Hatches Harbor.

3.9.4 Perimeter Safety / Security Fence Concept 1

The alignment under Concept 1 follows the perimeter of the Airport lease area. The length of the fence would be approximately 24,000 LF and would result in direct (34,067 SF) and indirect (33,800 SF) alterations to wetlands as well as direct (209,845 SF) and indirect (208,200 SF) alterations to coastal dunes and associated habitats, while completely enclosing approximately 317 acres of the 322 acres of the Airport. This alignment would require a 10-foot wide paved or gravel access road to allow for fence maintenance. The alignment would meet the project purpose and would protect Airport operations within airport operational areas and navigational surfaces. However, it would have impacts to tidal flow in Hatches Harbor.

3.9.5 Environmentally Preferred Alternative

Of the alternatives considered for the Perimeter Safety/Security Fence, the No Action alternative has been selected as the Environmentally Preferred Alternative, as the project does not involve operational safety improvements for aircraft operations within Part 77 navigable surfaces and will not occur within an existing footprint. The No Action alternative would not involve construction and would not alter wetland and coastal dune resources.

Although the No Action alternative would not involve construction within wetlands and coastal dunes, this alternative would not address the safety and security issues resulting from the lack of a perimeter fence. While the No Action alternative would not result in any impacts to natural resources, this alternative would continue to risk the health and safety of those at the Airport, possibly resulting in potentially undesirable or unintended consequences, both of which are defining elements of an environmentally preferred alternative per DO-12.

The No Action alternative is not the Preferred Alternative. An extensive analysis was carried out for the safety security fence in order to identify an alternative that would address the security and safety issues while minimizing impacts to wildlife, wetlands, and other natural resources. While the Preferred Alternative would result in impacts to resource areas, significant mitigation measures have been incorporated into the design and alignment of the fence concept to minimize these impacts. Additionally, a construction management plan has been drafted to minimize impacts during construction.

3.9.6 Alternatives Considered But Rejected

This section describes the following alternatives that have been identified and dismissed as explained.

- Concept 2: Apron Offset North; 500 Foot Primary Surface South
- Concept 3: Apron Offset North; 1,000 Foot Primary Surface South

- Concept 5: Apron Offset North; Wetland Offset South

Concepts 2 and 3 include a fence around the ILS with a 10-foot wide maintained area on the outside of the fence clear of trees and shrubs and a 10-foot wide vehicle travel path on the Airport side of the fence for security inspection patrols.

Concept 5 includes a fence around the ILS with a 4-foot wide maintained area on the outside of the fence clear of trees and shrubs and a 10-foot wide vehicle travel path, which would be maintained on the Airport side of the fence for security inspection patrols, except where the fence can be inspected from the GA aprons on the north.

Concept 2: Apron Offset North; 500 Foot Primary Surface South

This fence alignment would be offset approximately 320 feet from the runway centerline on the south side in compliance with the current FAA Waiver, and approximately 10 feet off the back of the aircraft aprons on the north side of the taxiway. The total length of the fence would be approximately 17,000 LF, enclosing approximately 104 acres. The alignment would directly and indirectly impact approximately 4 acres of wetlands (both bordering and isolated) and prime breeding habitat for the Eastern Spadefoot Toad with additional impacts to coastal dunes and associated habitats. In addition, Concept 2 has the potential to impact tidal flow and flood storage capacity since the fence in the vicinity of the ILS may impede normal tidal flow and flooding during storm events.

Concept 2 would meet the project purpose and need, and would be in compliance with the current FAA Waiver. Under the current Waiver, any fence alignment must be at least 63 feet beyond the edge of the FAR Part 77 Primary Surface to accommodate the 7 to 1 Transitional Surfaces that extend upward and out as an obstruction clear area. However, if this Waiver were ever to be revoked in the future, the fence under Concept 2 would have to be removed and relocated. Therefore this alternative has been deemed unfeasible and has been dismissed from further review.

Concept 3: Apron Offset North; 1,000 Foot Offset Primary Surface South

This alignment would have an approximately 500-foot offset from the runway centerline on the south and approximately 10 feet off the back of the aircraft aprons on the north side. The length of the fence would be approximately 17,900 LF, enclosing approximately 128 acres. The alignment would impact approximately 4.5 acres of wetlands (both bordering and isolated) and prime breeding habitat for the Eastern Spadefoot Toad with additional impacts to coastal dunes and Eastern Box Turtle habitat, and would likely have adverse impacts to these rare species. As with Concept 2, Concept 3 has the potential to impact tidal flow and flood storage capacity since the fence would be in the vicinity of the ILS. Maintaining the fence alignment in close proximity to the taxiway would reduce direct, long-term wetland and dune impacts by eliminating the need for a portion of the perimeter roadway. Concept 3 would meet the project purpose and need. However, this alternative has been deemed unfeasible for environmental permitting reasons and has been dismissed from further review.

Concept 5: Apron Offset North; Wetland Offset South

The Concept 5 alternative follows the same alignment on the southern side as Concept 4 (see Section 3.9.3). On the northern side, however, the fence would be located a minimum of 10-feet behind the aircraft parking aprons. The length of the fence would be approximately 14,000 LF, encompassing 148 acres. Concept 5 would impact approximately 1.5 acres (direct and indirect) of wetlands, and as with Concepts 2 and 3, also would have the potential to impact tidal flow and flood storage capacity in the vicinity of the ILS. While located within wetland areas, the close proximity of the fence to the taxiway would eliminate the need for a perimeter roadway along this stretch of the fence (e.g., as with the northern segments considered in Concepts 2 and 3). It is anticipated that this alignment would only require vegetation management along the fence, minimizing wetland alterations. In addition, portions of these wetlands are currently subject to vegetation management practices to maintain airfield safety. Similar to Concept 4, Concept 5 is also located at the base of the dune ridge to the south of the runway. Where required, the width for the vehicle path would be approximately 10 feet wide. The width of vegetation clearing would be reduced to 4 feet for the entire perimeter of the fence to further minimize impacts. The 4-foot clearing would be on both sides of the fence where a 10-foot patrol road is not necessary.

This alignment provides suitable clearance along the north side of the GA aprons to accommodate spatial considerations for aircraft that are pushed by hand onto the turf aprons, access to the electric controls on the back of the GA apron light poles, and overall constructability and, as such, meets the purpose and need and fully complies with FAA design standards.

This proposed alignment, while reducing overall wetland impacts, would still result in habitat fragmentation on the south side of the Airport, separating the large aggregate of isolated wetland areas from the adjacent upland areas of coastal dune. Taking the results of the Eastern Spadefoot Toad habitat surveys into consideration, placement of the fence along the toe of the dune ridge had the potential for interfering with breeding activity for this species. Accordingly, it was determined that Concept 5 was not the preferred alternative with respect to the natural resources at the Airport. Concept 5 again requires the construction of patrol roads along most lengths of the fence (except for north of the taxiway) for monitoring, and encloses a portion of the tidally-influenced wetlands within Hatches Harbor. As such, this alternative has been dismissed from further review.

3.10 Auto Parking Expansion

Three alternatives have been analyzed for the Auto Parking Expansion: The No Action alternative, an alternative that would construct additional parking in two phases Concept 4 (Preferred Alternative), and an alternative that would construct additional parking in one phase (Concept 1 Preferred Alternative in Draft EIR/EA). Three additional alternatives have been considered but dismissed from further review. The alternatives that have been considered for the project are illustrated on Figures 3.10 through 3.13 provided at the end of this section. All alternatives include reconstructing the deteriorated access road.

3.10.1 No Action

The No Action alternative would retain the existing parking area. Existing and future needs would not be met because parking would continue to be congested at peak periods, and visitors would continue to park along Airport Drive occasionally during peak periods, creating a potential safety hazard. The No Action would not impact natural resources because there would be no additional parking area constructed within coastal dune resources.

3.10.2 Auto Parking Concept 4, Phases 1 and 2 (Proposed Action and Preferred Alternative)

The parking lot currently has 62 spaces. Concept 4 would construct 28 additional spaces for Phase 1 (Phase 1 total 90 spaces). Phase 2 would construct additional parking spaces (estimated at an additional 29 spaces for a total of 119) after additional parking studies have been carried out and the studies have been reviewed and approved by NPS and CCC. Expanding the parking lot in phases would address the existing and mid term planning period need for additional parking.

The Preferred Alternative would result in an initial impact of 7,315 SF of coastal dune with the potential for approximately 5,707 SF of additional dune alteration for Phase 2. Dune alterations would be mitigated as discussed in Section 7. The parking aisles would be paved and parking spaces would consist of packed gravel. Infiltration swales would be constructed for Phase 1. A bioretention system would be constructed for Phase 2 which would provide treatment of runoff in accordance with current WPA regulations. Landscaping designed to screen views of the parking would use native plants similar to those listed in the NPS *Site and Building Design and Rehabilitation Handbook*, September 2005 developed for the Highlands Center at CCNS.

As an adjunct element to Phase 1, efforts to reduce demand by improving awareness of the shuttle system, encouraging the use of taxis, and working with NPS to explore the use of remote lots for long-term parking may possibly reduce or delay the need to implement Phase 2. The phases would be permitted separately with the Provincetown Conservation Commission so that each phase can be evaluated independently but with an understanding of the entire project.

3.10.3 Auto Parking Concept 1

Concept 1 would construct the proposed parking lot expansion in one phase by constructing 57 additional spaces and a third aisle with parking on both sides directly adjacent and parallel to the existing two aisles, providing a total of 119 spaces. This number of spaces would meet most of the existing and projected demand. The aisle would be paved and the parking spaces would be packed gravel. Alterations to coastal dune (10,000 SF) and isolated wetlands (4,650 SF of Wetland A) would occur under Concept 1.

3.10.4 Environmentally Preferred Alternative

The Environmentally Preferred Alternative for the proposed Auto Parking Expansion has been identified to be the No Action alternative, because the project is a capacity improvement. Additionally, with the No Action alternative there would be no construction and no impacts to coastal dune.

However, the No Action alternative is not the Preferred Alternative because it would not address the purpose and need for additional auto parking.

3.10.5 Alternatives Considered But Rejected

Auto Parking Concept 2
Concept 2 would provide a total of 161 spaces by constructing two additional aisles parallel to the existing two aisles. This configuration would impact approximately 10,950 SF of isolated wetland within Wetland A, as well as more than 10,000 SF of coastal dune and associated habitat. The aisles would be paved and the parking spaces would be packed gravel. This alternative has been dismissed from further review because this number of spaces would exceed the existing and projected demand.

Auto Parking Concept 3
Concept 3 would provide a total of 116 spaces parallel to the entrance drive, and would meet most of the existing and projected demand. This configuration would impact approximately 1,125 SF of isolated wetland within Wetland A and coastal dune habitat. The aisles would be paved and the

parking spaces would be packed gravel. This option puts some of the parking spaces at a long distance from the entrance to the Terminal and would be more visible from Race Point Road. The vehicle circulation is also awkward. This alternative has been dismissed from further review.

3.11 Terminal Building

Three alternatives for the Terminal Building expansion project element were explored, including the No Action alternative, an alternative that would construct a second floor within the existing footprint (Vertical Concept), and an alternative that would expand the 1st floor footprint (Horizontal Concept). All three alternatives are carried forward in the assessment of environmental impacts in Section 5.0. The alternatives that have been considered for the project are illustrated on Figures 3.14, 3.15, and 3.16 provided at the end of this section.

3.11.1 No Action

The No Action would maintain the current conditions in the passenger terminal building. Figure 1.4 in Section 1 depicts the floor plan of the existing terminal building along with photos. The space requirements for TSA operations were not in existence when the current terminal building was designed and built. The 1,660 SF taken over by TSA would not be replaced and the inefficient and cramped conditions for passengers and Airport staff would continue. Currently, passengers do not have enough space in the public, non-secure waiting area, and general aviation pilots do not have space for flight planning, while the conference room and various office spaces are congested and used for storage that was lost due to TSA occupation, which would continue. No impacts to the environment would occur because there would be no construction or change in the appearance or size of the building.

3.11.2 Vertical Concept (within existing footprint) - (Proposed Action and Preferred Alternative)

The Vertical Concept alternative would place a second floor above the existing building and reconfigure space in the existing first floor terminal. The Vertical Concept would satisfy the need to obtain the lost space to TSA, as well as the projected 0.7% annual increase in passengers over the planning period. This concept would provide the additional terminal space needed to operate the Airport in a safe and efficient manner. This concept would provide the additional 1,660 SF of lost TSA space plus approximately 1,000 to 2,200 SF of projected demand over the 20-year period.

The Vertical Concept would have no direct impacts to natural resources and potential impacts to the visual environment would be mitigated with landscape screening as well as with design elements. Minimizing the mass and height of the building is a priority of the CCNS. In order to accommodate a second floor, the increased height of the proposed building would be as minimal as possible, while maintaining an aesthetically pleasing architecture for NPS guests. It would likely be necessary to raise the height of the building to accommodate the second floor. The Vertical Concept terminal building would be approximately 6 to 12 feet higher than the existing 20’9$^{3/4}$” building, resulting in a 26’9$^{3/4}$” to 32’9$^{3/4}$” building height. A maximum height would be identified during meetings between the Airport, the architect, and CCNS staff. The Airport architects will work closely with CCNS staff to ensure a collaborative effort goes into designing the terminal building expansion. CCNS staff will be a member of the terminal design client group from the scoping of the project to final design.

The Vertical Concept alternative would provide the spatial needs to satisfy the purpose and need, while satisfying CCNS request for input from pre-design to ensure minimal visual impacts to Park resources. Therefore, the Vertical Concept is the Preferred Alternative.

3.11.3 Horizontal Concept (expand footprint)

The Horizontal Concept alternative would expand the building to the southwest adjacent to the existing passenger waiting area. The building height of the addition would match the height of the existing terminal building. The alternative would also include modifications to the interior of the existing terminal building.

The Horizontal Concept alternative expansion would provide an additional 900 to 1,200 SF of non-secured area, less than the needed 1,600 SF lost to TSA secure operations, and would not satisfy the purpose and need. Horizontal expansion would result in alterations to Wetland C (560 SF). Any further expansion to the west would affect the location of the underground fuel tank. Expansion to the north would impact the existing passenger drop-off area and/or the existing parking lot. This would impact the proposed expansion of the parking area.

Additionally, the Horizontal Concept would require that the TSA trailer be relocated. After further evaluation since the NPC/DEIR/EA, it has been determined that the TSA trailer could not be located adjacent to the fuel farm due to Occupational Health and Safety Administration (OSHA) requirements. The location for the TSA trailer would likely need to be in the passenger parking lot or adjacent to the GA apron, again having an adverse impact on parking by occupying a minimum of six parking spaces. The auto parking area circulation road would need to be realigned, resulting in the loss of several additional auto parking spaces.

The Horizontal Concept would also have additional potential impacts on the visual environment, as the relocated TSA trailer would be visible from the existing CCNS bike path. In addition, TSA operations would also be located outside the secure area, which is unacceptable to TSA.

3.11.4 Environmentally Preferred Alternative

The Environmentally Preferred Alternative for the proposed Terminal Building Expansion has been identified to be the No Action alternative, because the project is a capacity improvement. There would be no construction and no change in the visual environment under the No Action alternative.

However, the No Action alternative is not the Preferred Alternative because it would not address the purpose and need for additional space in the Terminal. NPS visitors that utilize the Airport as a means of accessing the CCNS, as well as Airport staff and pilots, would continue to be inconvenienced by the existing cramped conditions in the Terminal. With careful design coordination through NPS, the Preferred Alternative would have minimal visual impacts on Park visitors, and would achieve the Purpose and Need.

3.11.5 Alternatives Considered But Rejected

No other alternatives were identified.

3.12 Turf Apron Expansion

The potential impacts of constructing additional turf apron to accommodate GA aircraft were analyzed with three alternatives: the No Action alternative, an alternative that would construct additional apron space for a full range of GA aircraft (Full Dimension alternative), and an alternative that would accommodate smaller GA aircraft (Reduced Dimension). The alternatives that have been considered for the project are illustrated on Figures 3.17 and 3.18 provided at the end of this section.

3.12.1 No Action

The No Action would maintain the current area for turf parking of GA aircraft. There would be no impacts to natural resources because the turf area would not be reconstructed and reinforced. The need for additional parking area would not be met and it would continue to be necessary to close the Mid Connector taxiway to provide overflow aircraft parking areas during peak demand, and would not meet the purpose and need.

3.12.2 Expand Apron, Full Dimension

The Full Dimension alternative would construct the turf apron outside of the Taxiway Free Area (TOFA) in compliance with FAA safety design standards, and would accommodate the full range of GA aircraft that use the turf apron at the Airport. The width of the apron would accommodate the larger GA planes. Implementation of this alternative would result in impacts to Wetland C (1,250 SF). There would be temporary impacts to cultural grassland habitat (approximately 16,800 SF) during construction, which would be restored to grasslands.

3.12.3 Expand Apron, Reduced Dimension (Proposed Action and Preferred Alternative)

Under the Reduced Dimension alternative, additional turf apron would be constructed between the two existing areas for turf apron parking by increasing the carrying capacity of the existing grass area to support the weight of the planes. Approximately 16,780 SF of existing managed cultural grassland habitat would be temporarily impacted during construction, and would be restored to managed grassland habitat.

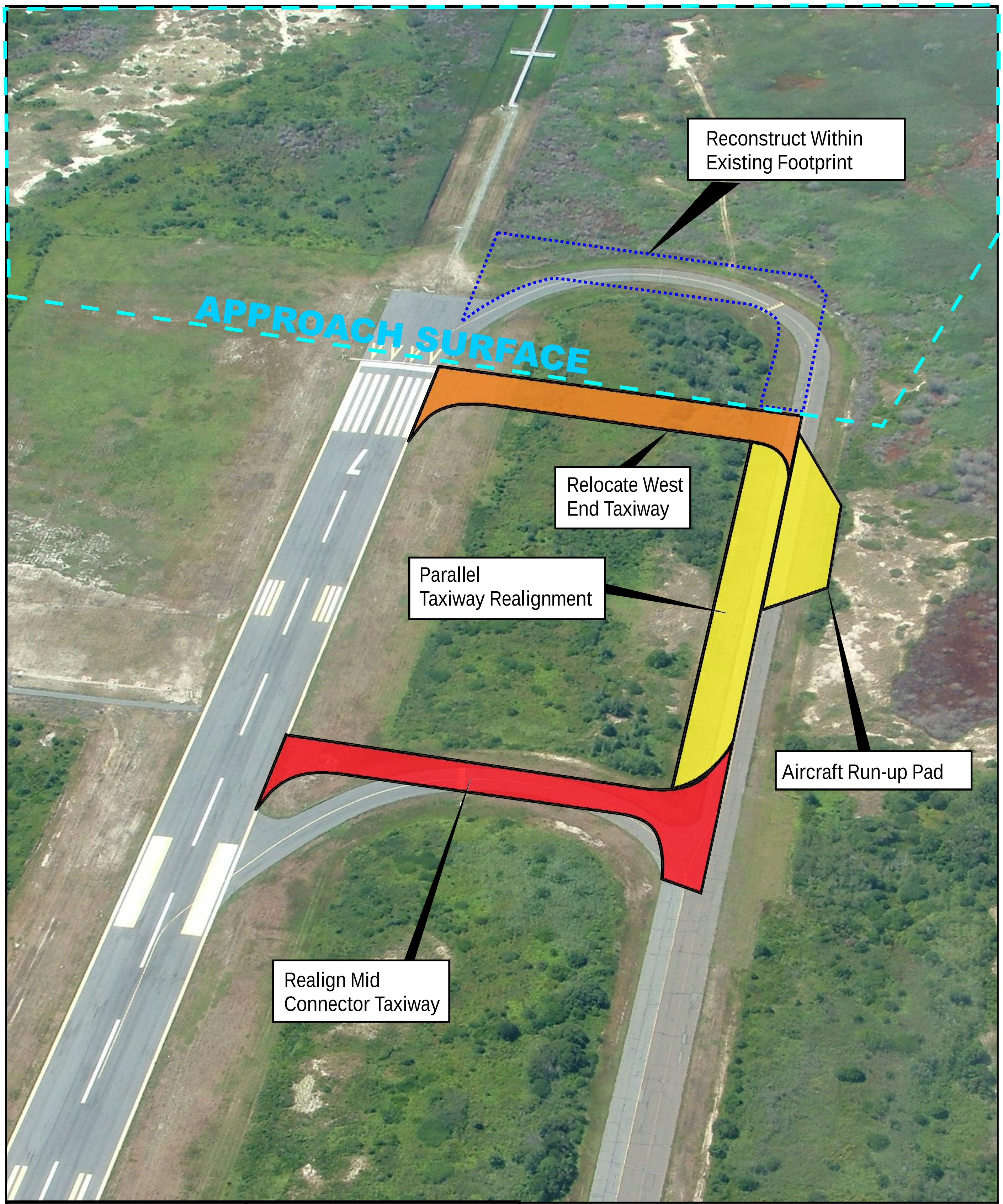
3.12.4 Environmentally Preferred Alternative

The Environmentally Preferred Alternative for the proposed Turf Apron Expansion has been identified to be the No Action alternative, as the project is a capacity improvement. The No Action alternative would not result in construction or impacts to cultural grassland.

However, the No Action alternative is not the Preferred Alternative because it would not address the purpose and need for additional turf apron space. The Preferred Alternative would, after mitigation and through careful construction timing, restore the grassland habitat with little or no impacts to this resource, while achieving a balance between the need for visitor aircraft parking space and protection of the natural environment.

3.12.5 Alternatives Considered But Rejected

No other alternatives were identified.


Reconstruct Within Existing Footprint
APPROACH SURFACE
Relocate West End Taxiway
Parallel Taxiway Realignment
Aircraft Run-up Pad
Realign Mid Connector Taxiway

Prepared By:

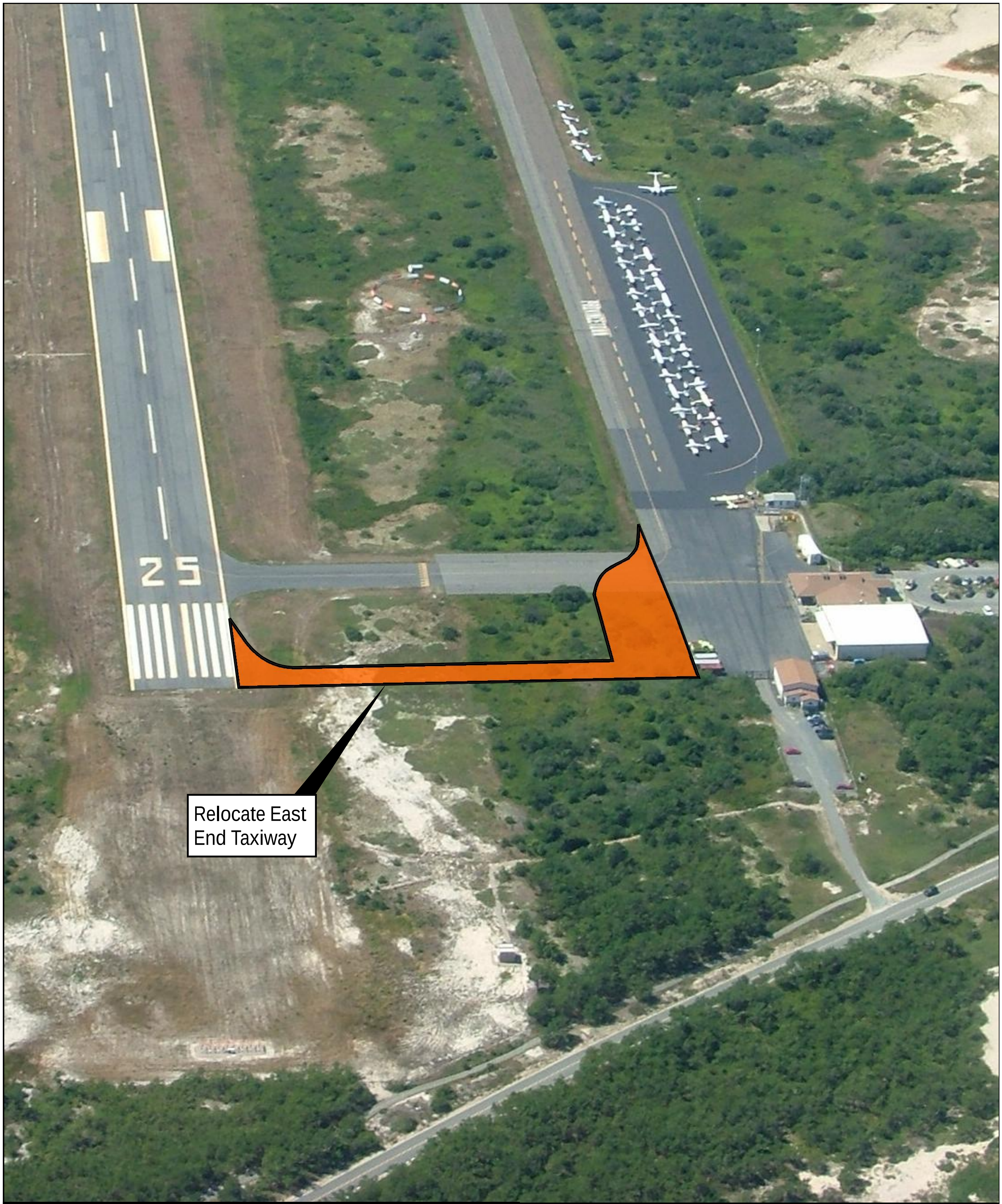
JACOBS

Source: Edwards and Kelcey 2007

Provincetown Municipal Airport
Capital Improvements Plan

Westerly Taxiway System Improvements

Figure 3.1



Prepared By:

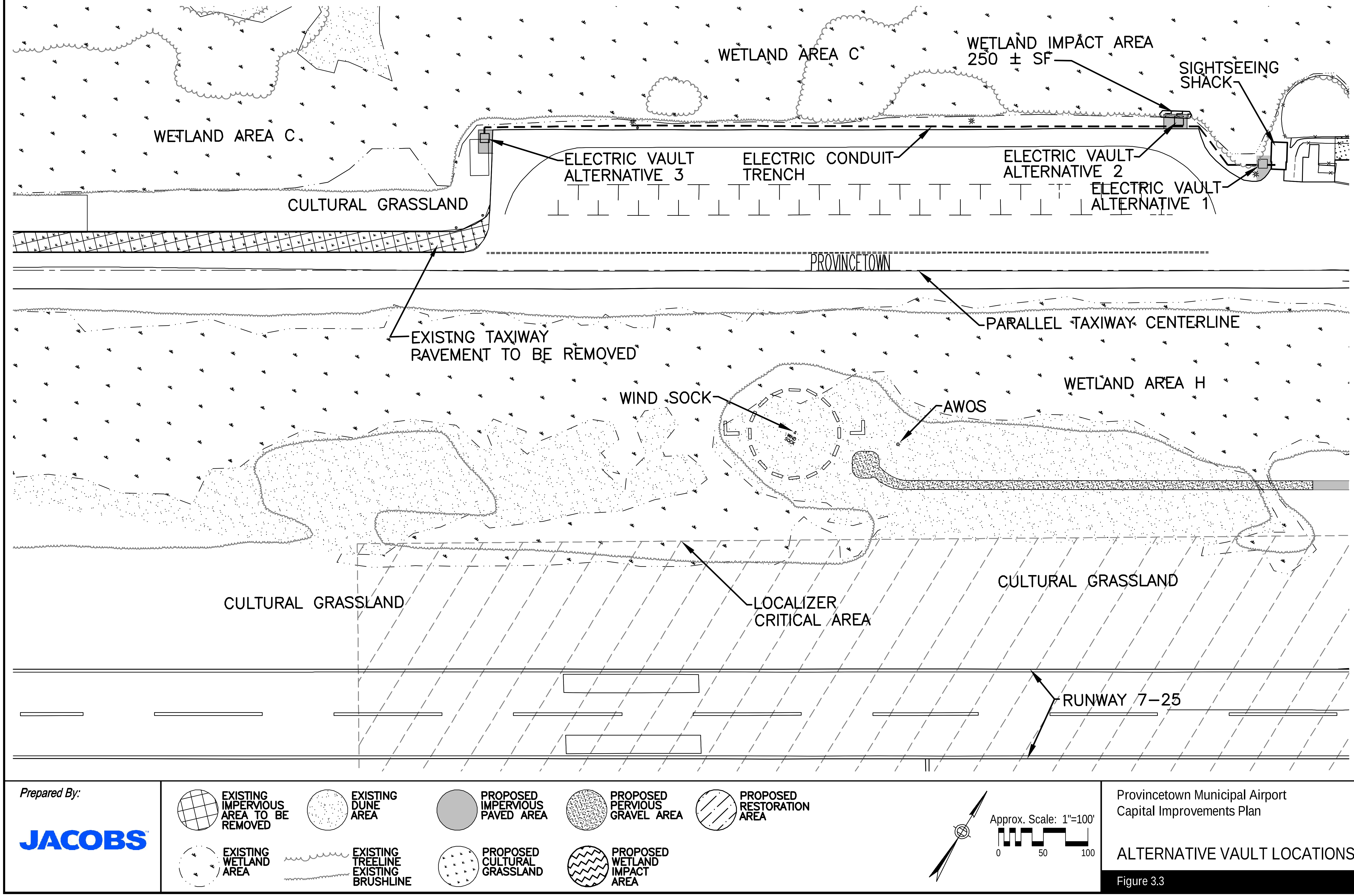
JACOBS

Source: Edwards and Kelcey 2007

Provincetown Municipal Airport
Capital Improvements Plan

East End Taxiway Relocation

Figure 3.2


WETLAND AREA C
WETLAND AREA C
WETLAND IMPACT AREA 250 ± SF
SIGHTSEEING SHACK
CULTURAL GRASSLAND
ELECTRIC VAULT ALTERNATIVE 3
ELECTRIC CONDUIT TRENCH
ELECTRIC VAULT ALTERNATIVE 2
ELECTRIC VAULT ALTERNATIVE 1
PROVINCETOWN
EXISTING TAXIWAY PAVEMENT TO BE REMOVED
PARALLEL TAXIWAY CENTERLINE
WIND SOCK
AWOS
WETLAND AREA H
CULTURAL GRASSLAND
LOCALIZER CRITICAL AREA
CULTURAL GRASSLAND
RUNWAY 7–25
EXISTING IMPERVIOUS AREA TO BE REMOVED
EXISTING DUNE AREA
PROPOSED IMPERVIOUS PAVED AREA
PROPOSED PERVIOUS GRAVEL AREA
PROPOSED RESTORATION AREA
EXISTING WETLAND AREA
EXISTING TREELINE
EXISTING BRUSHLINE
PROPOSED CULTURAL GRASSLAND
PROPOSED WETLAND IMPACT AREA
Approx. Scale: 1"=100'
0
50
100

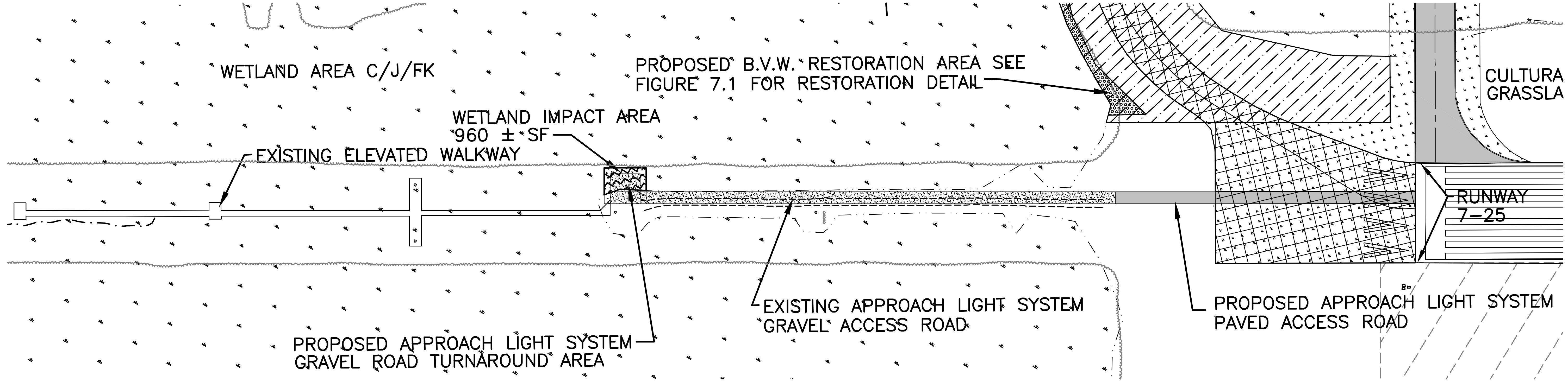
Prepared By:

JACOBS

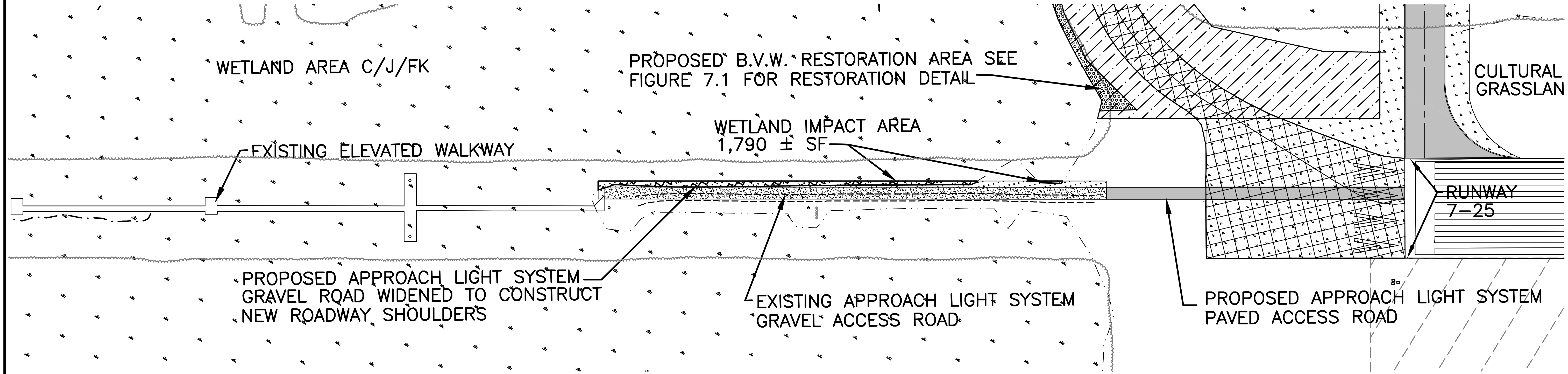
Provincetown Municipal Airport
Capital Improvements Plan

ALTERNATIVE VAULT LOCATIONS

Figure 3.3


WETLAND AREA C/J/FK
PROPOSED B.V.W. RESTORATION AREA SEE FIGURE 7.1 FOR RESTORATION DETAIL
CULTURA GRASSLA
WETLAND IMPACT AREA 960 ± SF
EXISTING ELEVATED WALKWAY
RUNWAY 7–25
EXISTING APPROACH LIGHT SYSTEM GRAVEL ACCESS ROAD
PROPOSED APPROACH LIGHT SYSTEM PAVED ACCESS ROAD
PROPOSED APPROACH LIGHT SYSTEM GRAVEL ROAD TURNAROUND AREA

OPTION 2

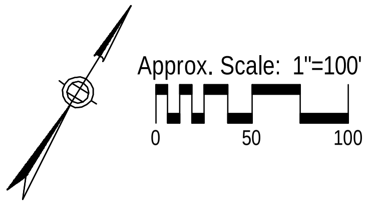

WETLAND AREA C/J/FK
PROPOSED B.V.W. RESTORATION AREA SEE FIGURE 7.1 FOR RESTORATION DETAIL
CULTURAL GRASSLAN
WETLAND IMPACT AREA 1,790 ± SF
EXISTING ELEVATED WALKWAY
RUNWAY 7–25
PROPOSED APPROACH LIGHT SYSTEM GRAVEL ROAD WIDENED TO CONSTRUCT NEW ROADWAY SHOULDERS
EXISTING APPROACH LIGHT SYSTEM GRAVEL ACCESS ROAD
PROPOSED APPROACH LIGHT SYSTEM PAVED ACCESS ROAD

OPTION 1

Prepared By:

JACOBS

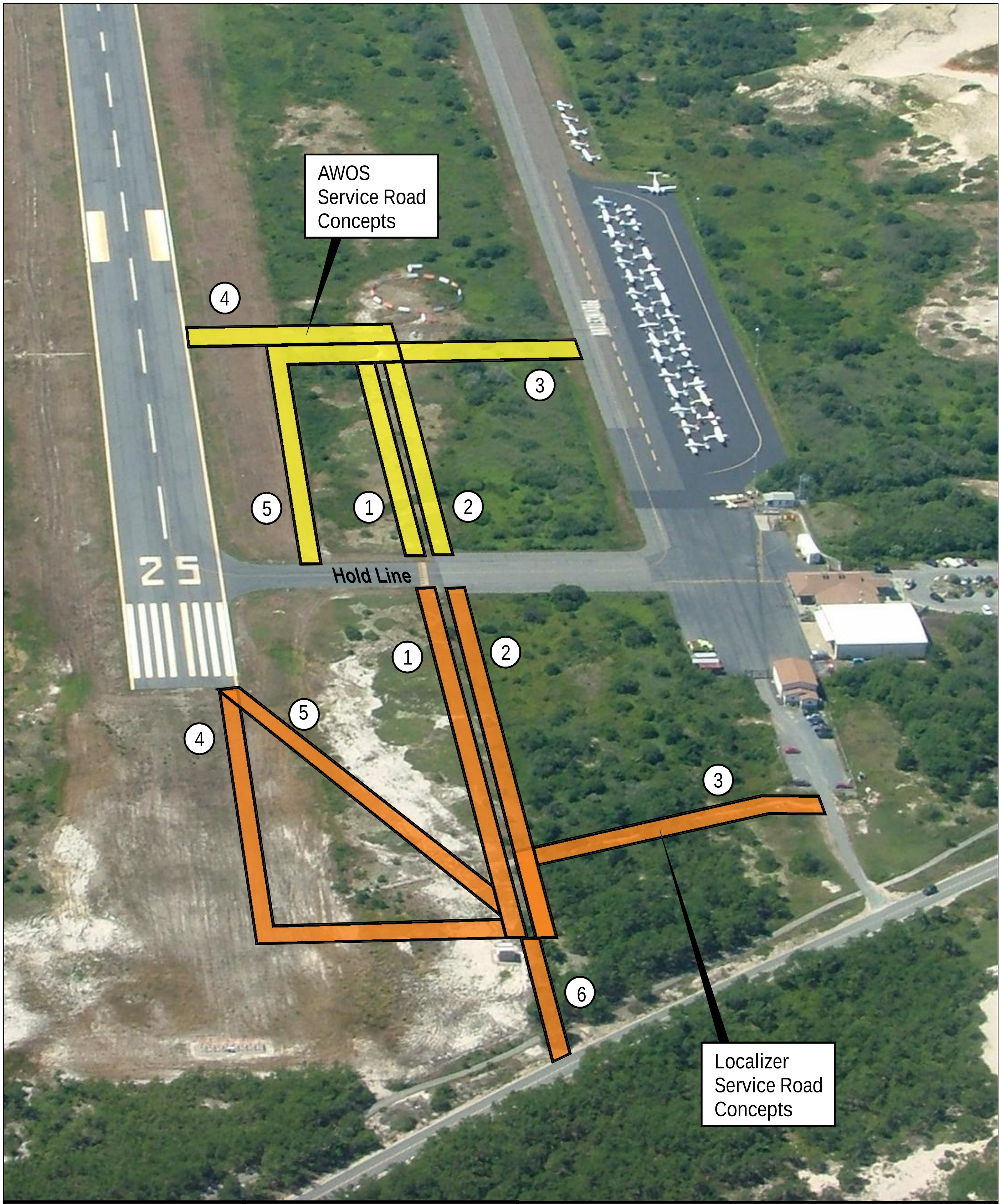
- ▦ EXISTING IMPERVIOUS AREA TO BE REMOVED
- ◌ EXISTING WETLAND AREA
- ◌ EXISTING DUNE AREA
- 〰 EXISTING TREELINE
- ～ EXISTING BRUSHLINE
- ● PROPOSED IMPERVIOUS PAVED AREA
- ◌ PROPOSED CULTURAL GRASSLAND
- ▩ PROPOSED PERVIOUS GRAVEL AREA
- ≋ PROPOSED WETLAND IMPACT AREA
- ▨ PROPOSED RESTORATION AREA



Provincetown Municipal Airport
Capital Improvements Plan

APPROACH LIGHTS ACCESS ROAD
ALTERNATIVES

Figure 3.4



Prepared By:

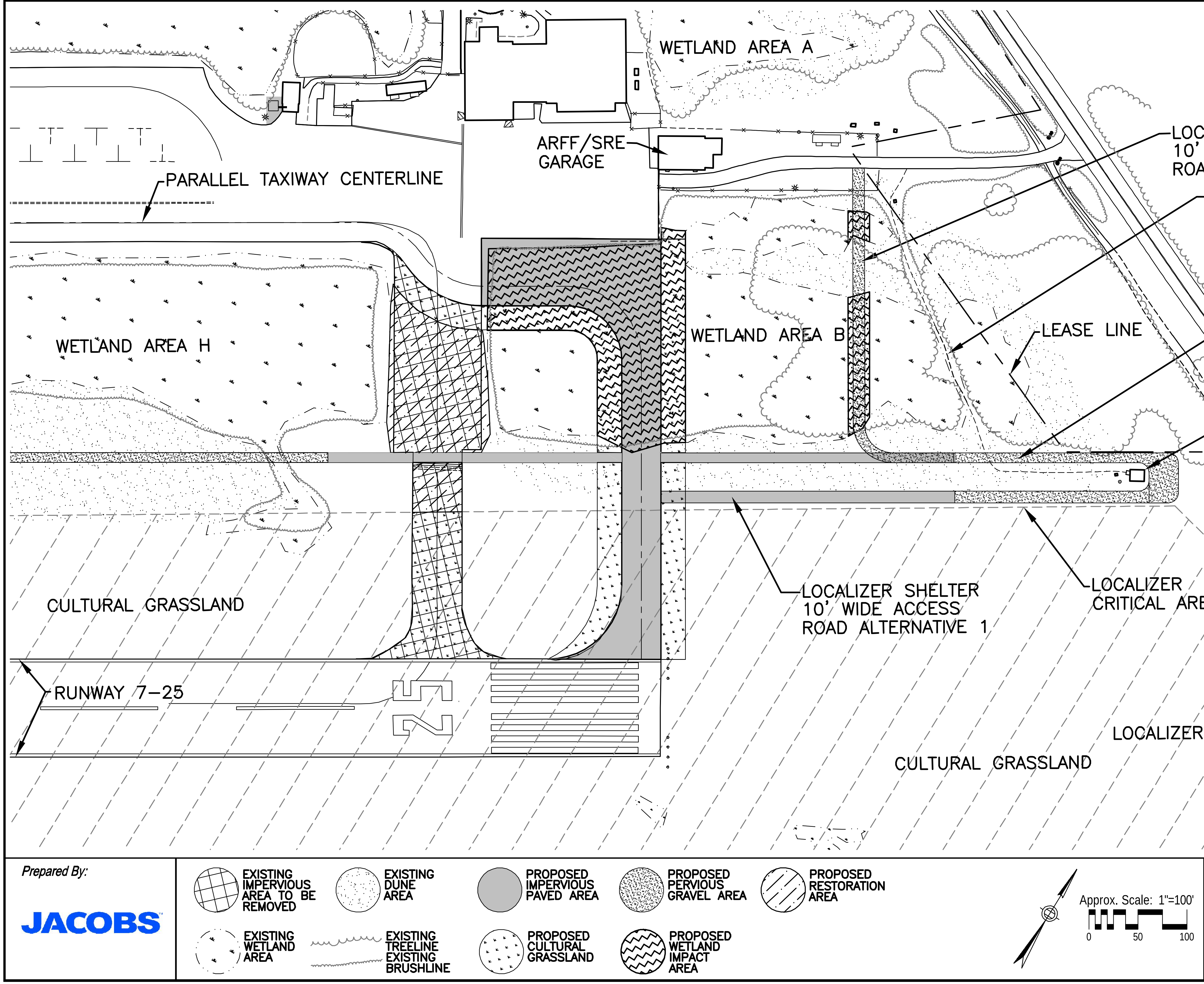
JACOBS

Source: Edwards and Kelcey 2005

Provincetown Municipal Airport
Capital Improvements Plan

SERVICE ROADS PROJECT CONCEPTS

Figure 3.5


WETLAND AREA A
ARFF/SRE GARAGE
LOCALIZER SHELTER 10' WIDE ACCESS ROAD ALTERNATIVE 3
LOCATION OF THE PRIMARY SERVICE POWER CABLES TO THE NAVAID FACILITIES
PARALLEL TAXIWAY CENTERLINE
LOCALIZER SHELTER 10' WIDE ACCESS ROAD ALTERNATIVE 2
LEASE LINE
WETLAND AREA H
WETLAND AREA B
LOCALIZER EQUIPMENT SHELTER (LES)
BIKE PATH
EXISTING FENCE
RACE POINT ROAD
CULTURAL GRASSLAND
LOCALIZER SHELTER 10' WIDE ACCESS ROAD ALTERNATIVE 1
LOCALIZER CRITICAL AREA
RUNWAY 7-25
25
LOCALIZER
CULTURAL GRASSLAND
EXISTING IMPERVIOUS AREA TO BE REMOVED
EXISTING DUNE AREA
PROPOSED IMPERVIOUS PAVED AREA
PROPOSED PERVIOUS GRAVEL AREA
PROPOSED RESTORATION AREA
EXISTING WETLAND AREA
EXISTING TREELINE
EXISTING BRUSHLINE
PROPOSED CULTURAL GRASSLAND
PROPOSED WETLAND IMPACT AREA
Approx. Scale: 1"=100'
0
50
100

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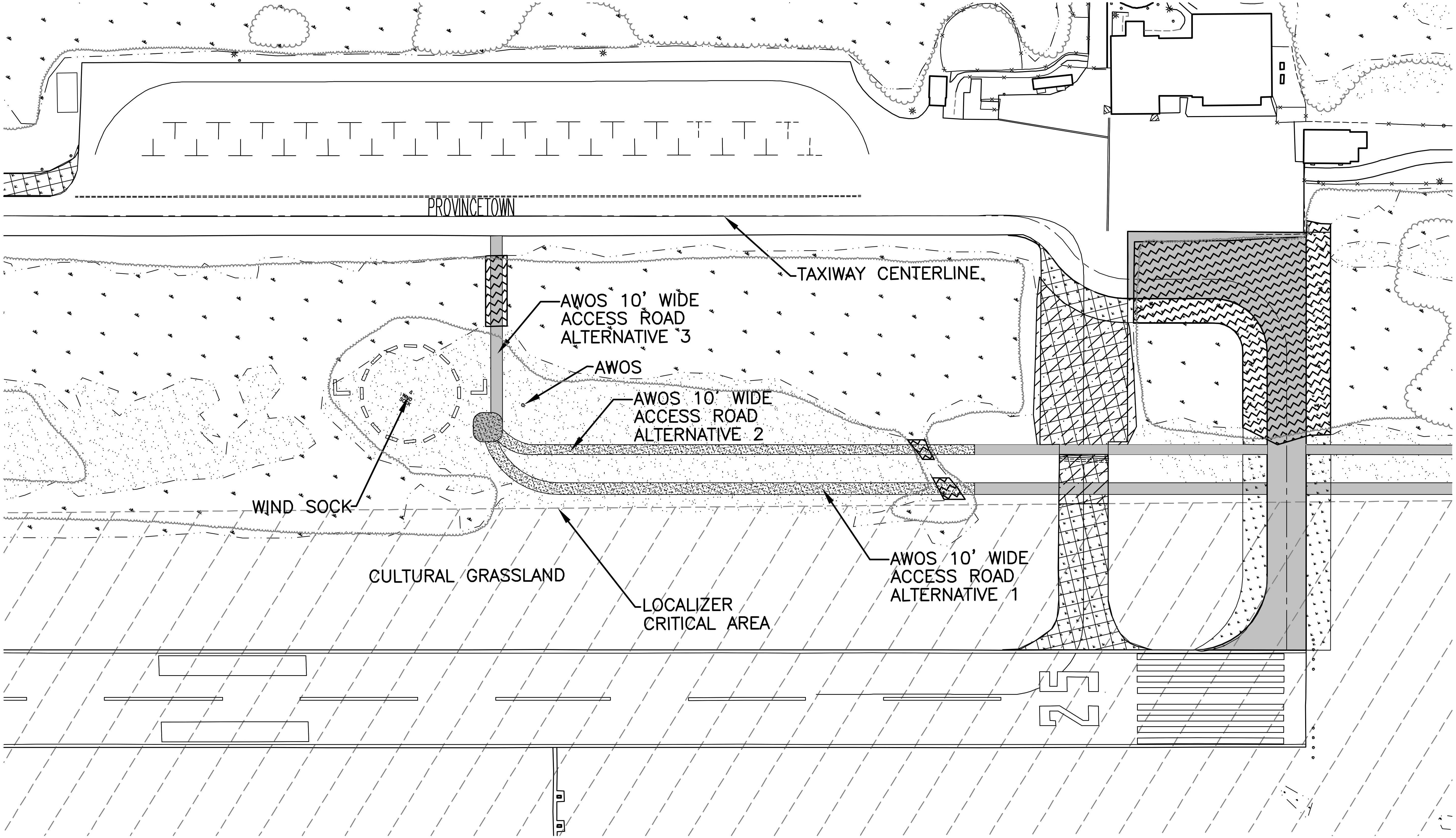
Provincetown Municipal Airport
Capital Improvements Plan

LES ACCESS ROAD ALTERNATIVES

Figure 3.6


PROVINCETOWN
TAXIWAY CENTERLINE
AWOS 10' WIDE ACCESS ROAD ALTERNATIVE 3
AWOS
AWOS 10' WIDE ACCESS ROAD ALTERNATIVE 2
WIND SOCK
CULTURAL GRASSLAND
LOCALIZER CRITICAL AREA
AWOS 10' WIDE ACCESS ROAD ALTERNATIVE 1
25
EXISTING IMPERVIOUS AREA TO BE REMOVED
EXISTING DUNE AREA
PROPOSED IMPERVIOUS PAVED AREA
PROPOSED PERVIOUS GRAVEL AREA
PROPOSED RESTORATION AREA
EXISTING WETLAND AREA
EXISTING TREELINE
EXISTING BRUSHLINE
PROPOSED CULTURAL GRASSLAND
PROPOSED WETLAND IMPACT AREA
Approx. Scale: 1"=100'
0
50
100

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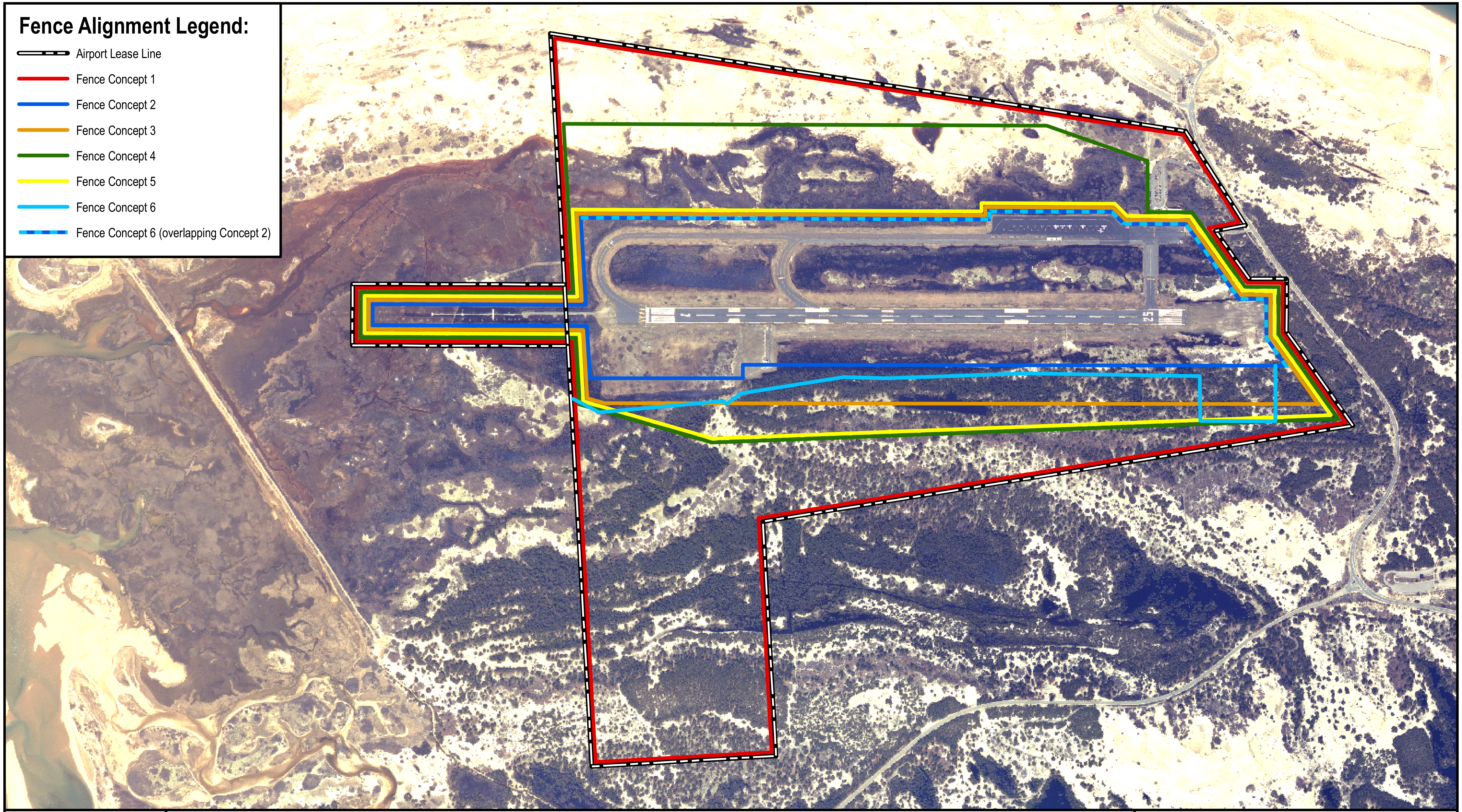
Provincetown Municipal Airport
Capital Improvements Plan

AWOS ACCESS ROAD ALTERNATIVES

Figure 3.7



Prepared By:

JACOBS

Approx. Scale in Feet

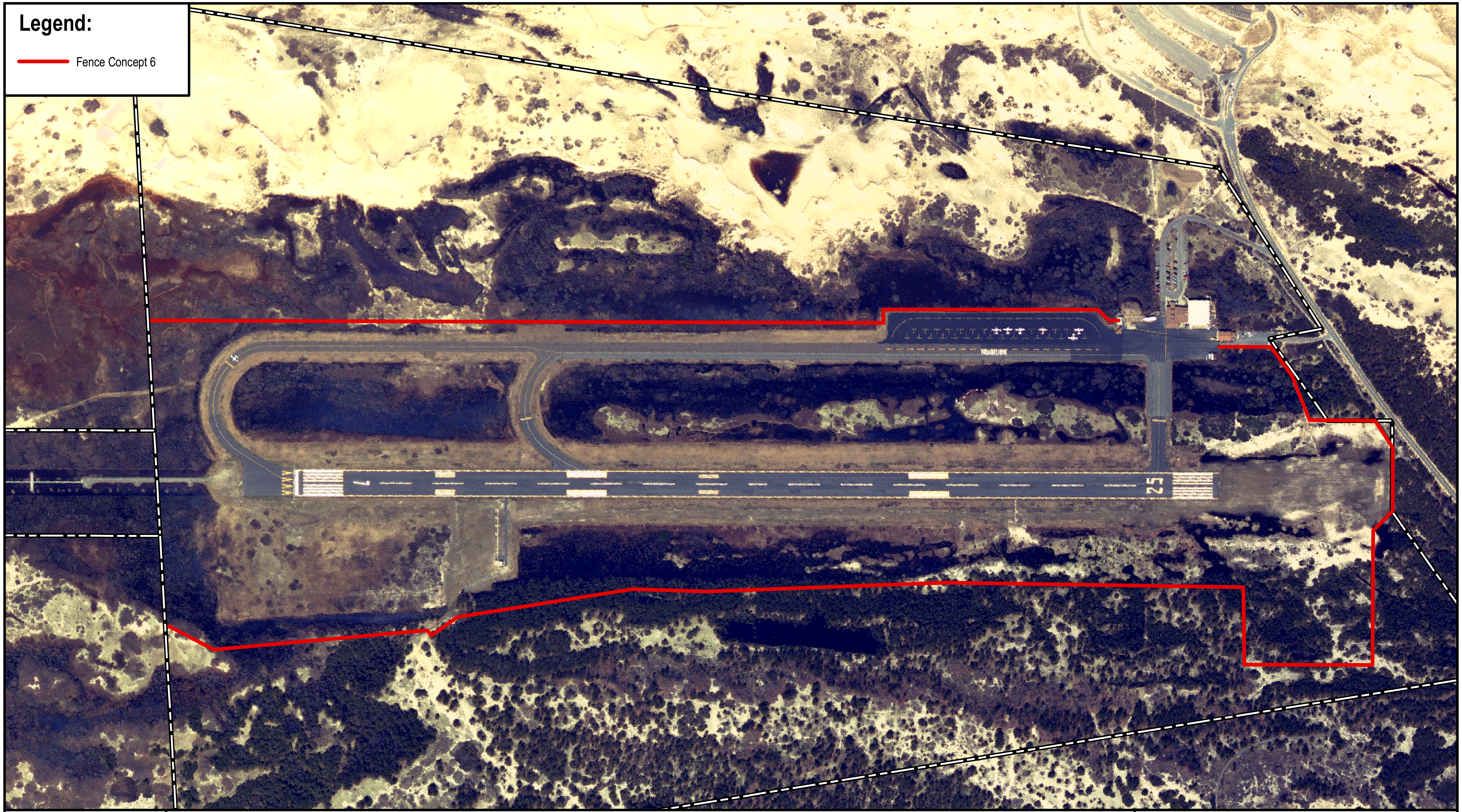
0 300 600

Data Source: MassGIS, Commonwealth of Massachusetts EOEA

Provincetown Municipal Airport
Capital Improvements Plan

ALTERNATIVE FENCE ALIGNMENTS

Figure 3.8



Prepared By:

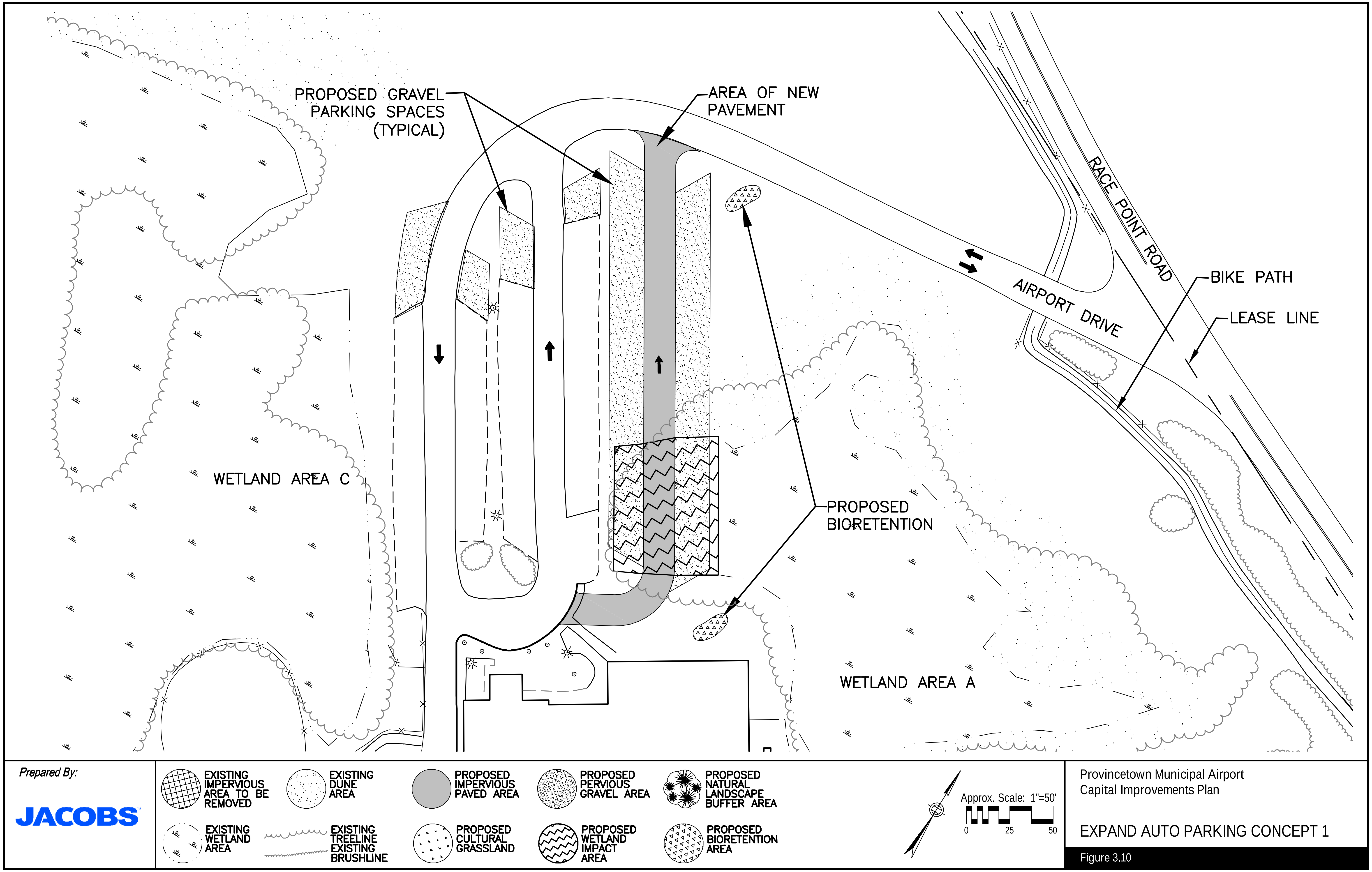
JACOBS

Data Source: MassGIS, Commonwealth of Massachusetts EOEA

Provincetown Municipal Airport
Capital Improvements Plan

FENCE CONCEPT 6

Figure 3.9


PROPOSED GRAVEL PARKING SPACES (TYPICAL)
AREA OF NEW PAVEMENT
RACE POINT ROAD
AIRPORT DRIVE
BIKE PATH
LEASE LINE
PROPOSED BIORETENTION
WETLAND AREA C
WETLAND AREA A
EXISTING IMPERVIOUS AREA TO BE REMOVED
EXISTING DUNE AREA
PROPOSED IMPERVIOUS PAVED AREA
PROPOSED PERVIOUS GRAVEL AREA
PROPOSED NATURAL LANDSCAPE BUFFER AREA
EXISTING WETLAND AREA
EXISTING TREELINE
EXISTING BRUSHLINE
PROPOSED CULTURAL GRASSLAND
PROPOSED WETLAND IMPACT AREA
PROPOSED BIORETENTION AREA
Approx. Scale: 1"=50'
0
25
50

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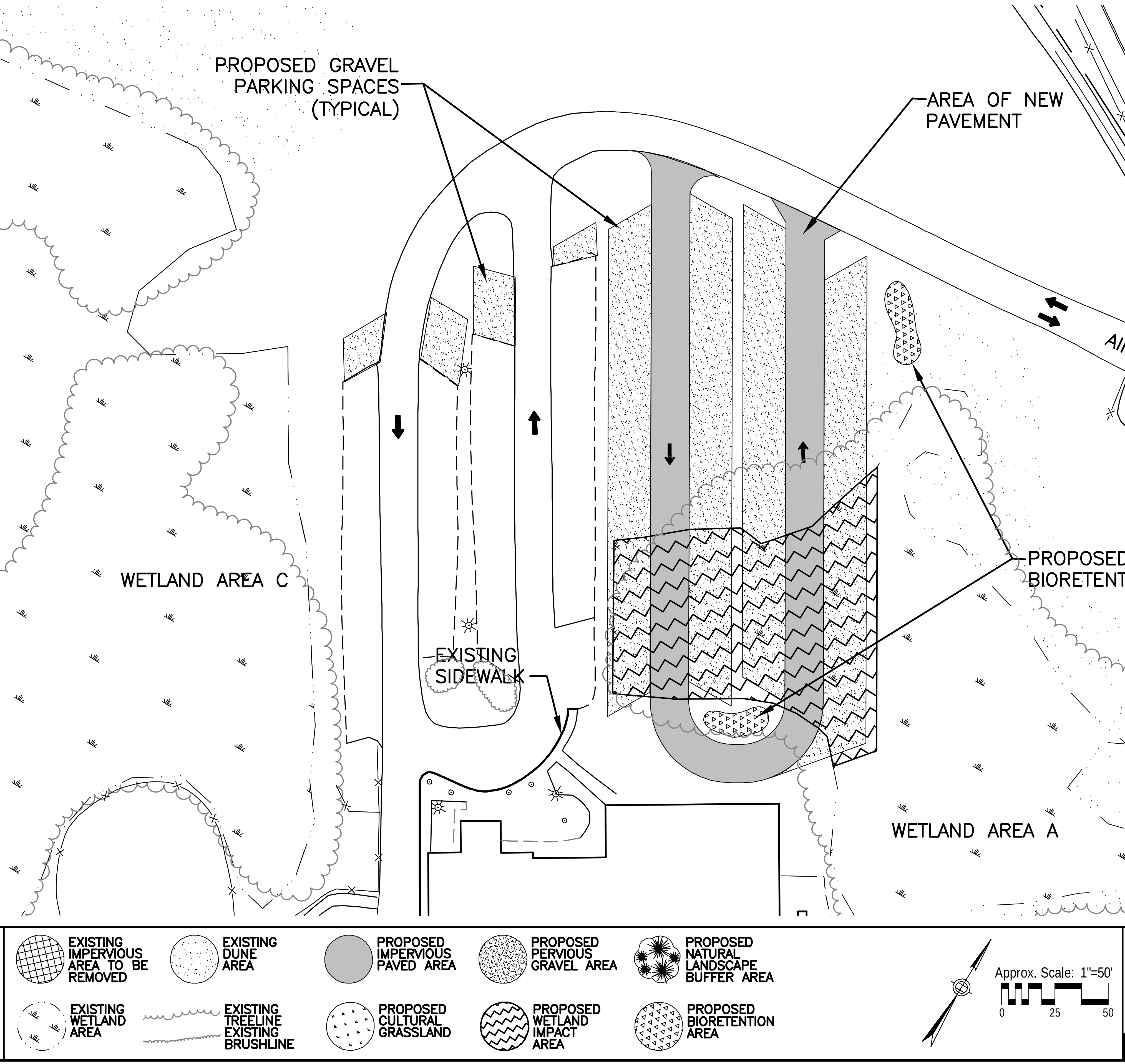
Provincetown Municipal Airport
Capital Improvements Plan

EXPAND AUTO PARKING CONCEPT 1

Figure 3.10

Prepared By:

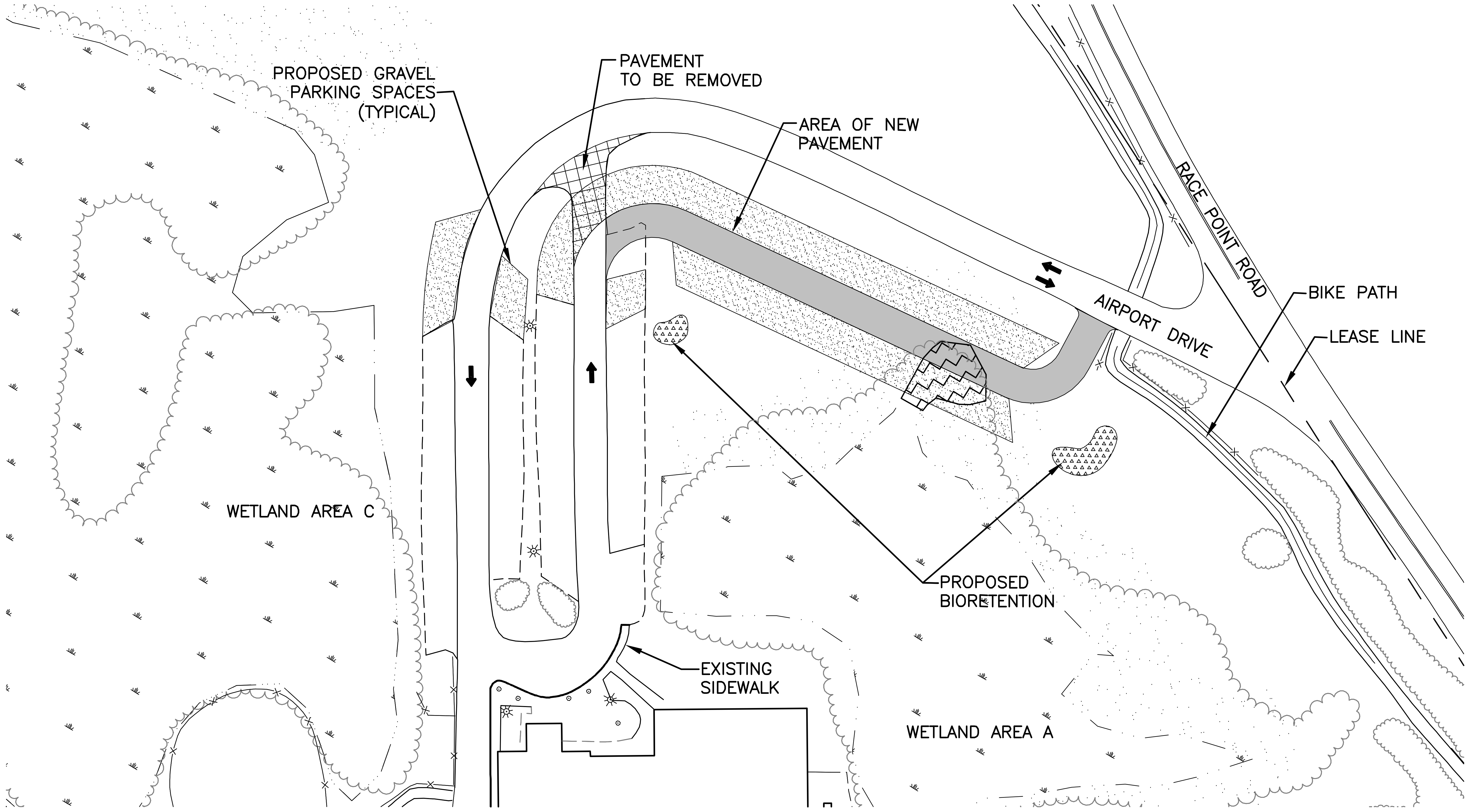
JACOBS


PROPOSED GRAVEL PARKING SPACES (TYPICAL)
AREA OF NEW PAVEMENT
RACE POINT ROAD
AIRPORT DRIVE
BIKE PATH
LEASE LINE
PROPOSED BIORETENTION
EXISTING SIDEWALK
WETLAND AREA C
WETLAND AREA A
EXISTING IMPERVIOUS AREA TO BE REMOVED
EXISTING DUNE AREA
PROPOSED IMPERVIOUS PAVED AREA
PROPOSED PERVIOUS GRAVEL AREA
PROPOSED NATURAL LANDSCAPE BUFFER AREA
EXISTING WETLAND AREA
EXISTING TREELINE
EXISTING BRUSHLINE
PROPOSED CULTURAL GRASSLAND
PROPOSED WETLAND IMPACT AREA
PROPOSED BIORETENTION AREA
Approx. Scale: 1"=50'
0
25
50

Provincetown Municipal Airport
Capital Improvements Plan

EXPAND AUTO PARKING CONCEPT 2

Figure 3.11



Prepared By:

JACOBS

▦ EXISTING IMPERVIOUS AREA TO BE REMOVED

○ EXISTING DUNE AREA

● PROPOSED IMPERVIOUS PAVED AREA

○ PROPOSED PERVIOUS GRAVEL AREA

✱ PROPOSED NATURAL LANDSCAPE BUFFER AREA

○ EXISTING WETLAND AREA

EXISTING TREELINE
EXISTING BRUSHLINE

○ PROPOSED CULTURAL GRASSLAND

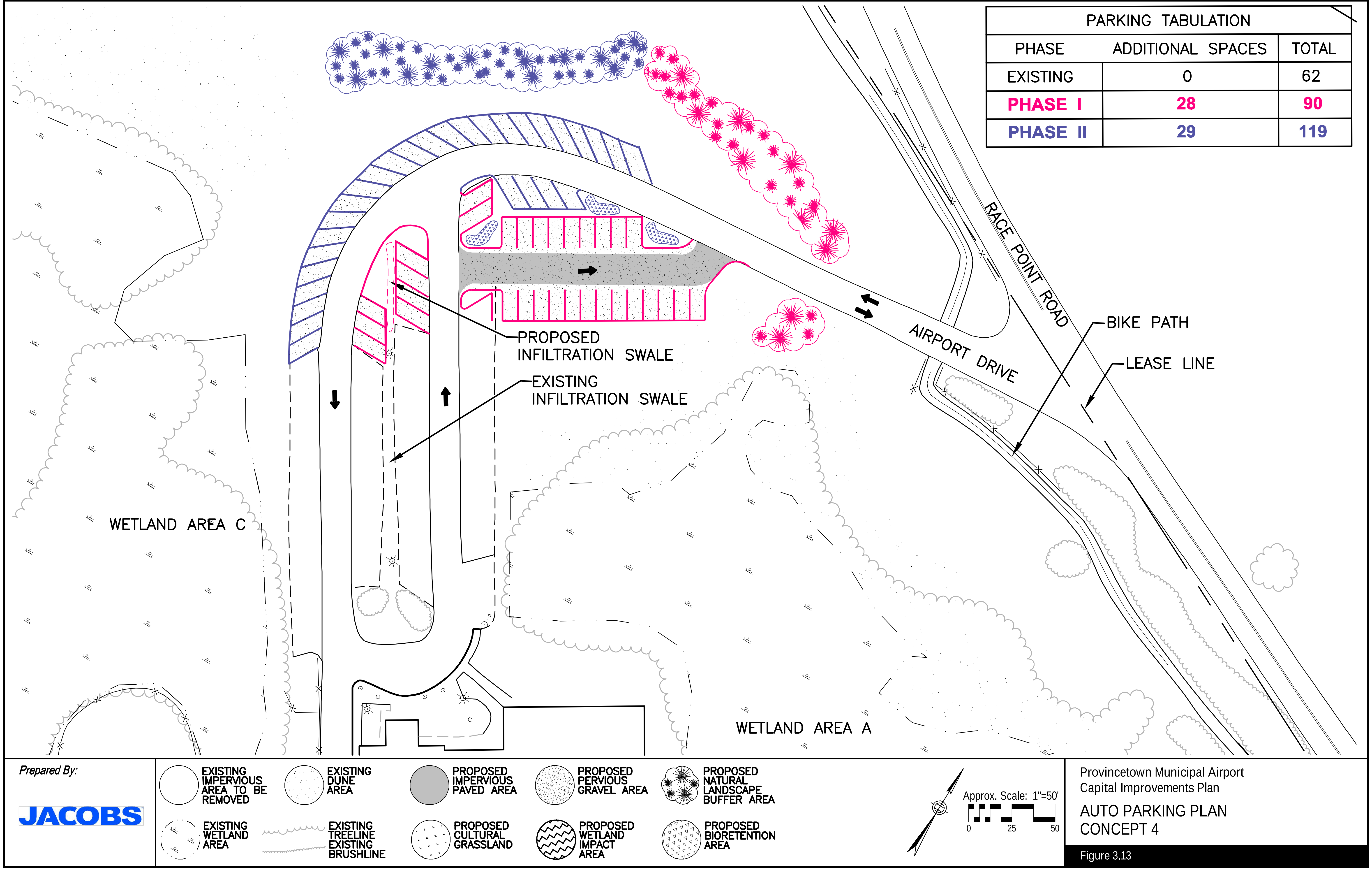
○ PROPOSED WETLAND IMPACT AREA

○ PROPOSED BIORETENTION AREA

Provincetown Municipal Airport
Capital Improvements Plan

EXPAND AUTO PARKING CONCEPT 3

Figure 3.12


RACE POINT ROAD
AIRPORT DRIVE
BIKE PATH
LEASE LINE
PROPOSED INFILTRATION SWALE
EXISTING INFILTRATION SWALE
WETLAND AREA C
WETLAND AREA A
EXISTING IMPERVIOUS AREA TO BE REMOVED
EXISTING DUNE AREA
PROPOSED IMPERVIOUS PAVED AREA
PROPOSED PERVIOUS GRAVEL AREA
PROPOSED NATURAL LANDSCAPE BUFFER AREA
EXISTING WETLAND AREA
EXISTING TREELINE
EXISTING BRUSHLINE
PROPOSED CULTURAL GRASSLAND
PROPOSED WETLAND IMPACT AREA
PROPOSED BIORETENTION AREA
Approx. Scale: 1"=50'
0
25
50

PARKING TABULATION		
PHASE	ADDITIONAL SPACES	TOTAL
EXISTING	0	62
PHASE I	**28**	**90**
PHASE II	**29**	**119**

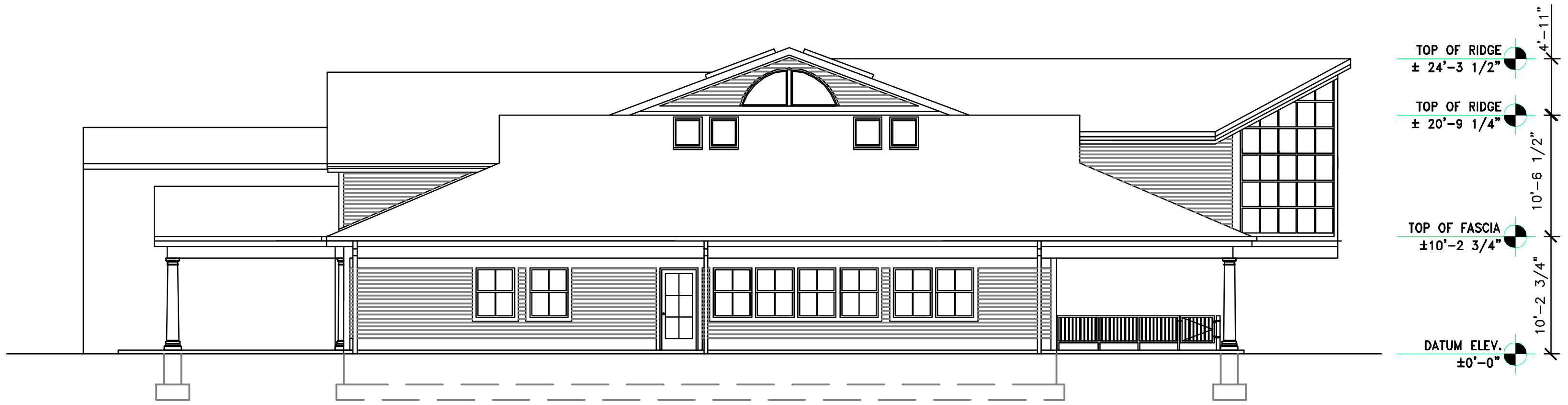
Prepared By:

JACOBS

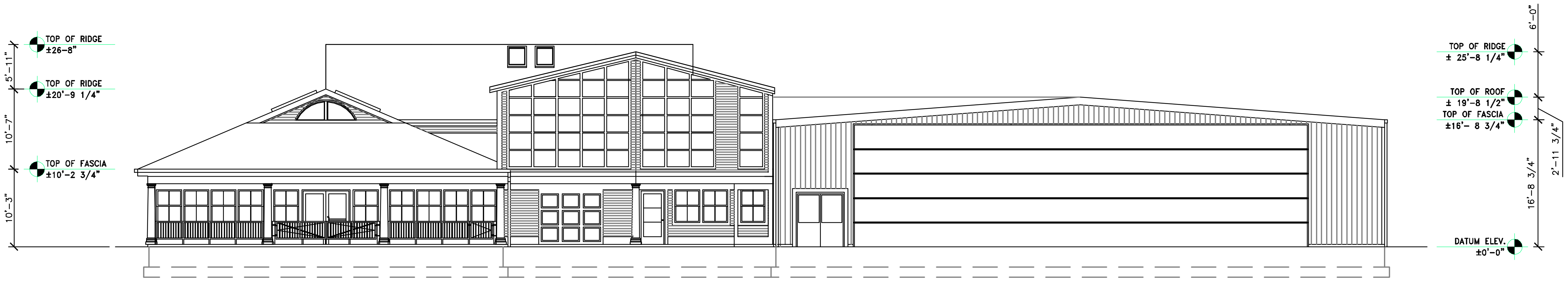
Provincetown Municipal Airport
Capital Improvements Plan

AUTO PARKING PLAN
CONCEPT 4

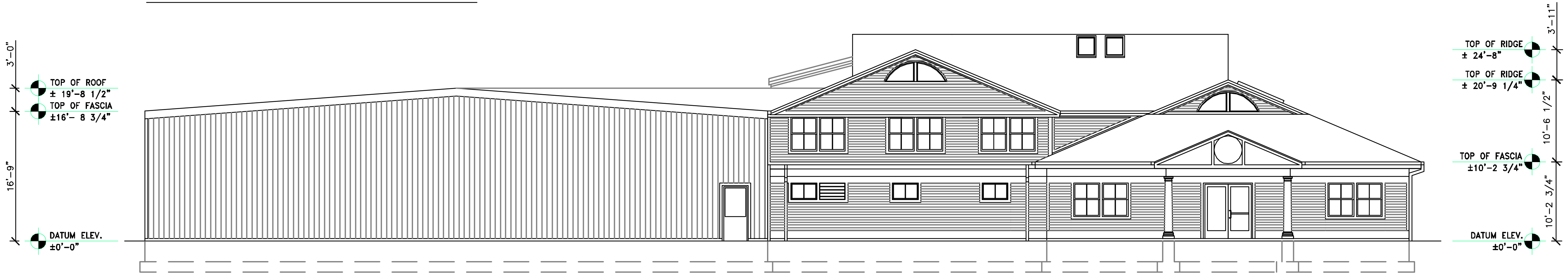
Figure 3.13



VERTICAL CONCEPT 1
WEST ELEVATION



VERTICAL CONCEPT 1
AIRSIDE – SOUTH ELEVATION



VERTICAL CONCEPT 1
ENTRY – NORTH ELEVATION

Prepared By:

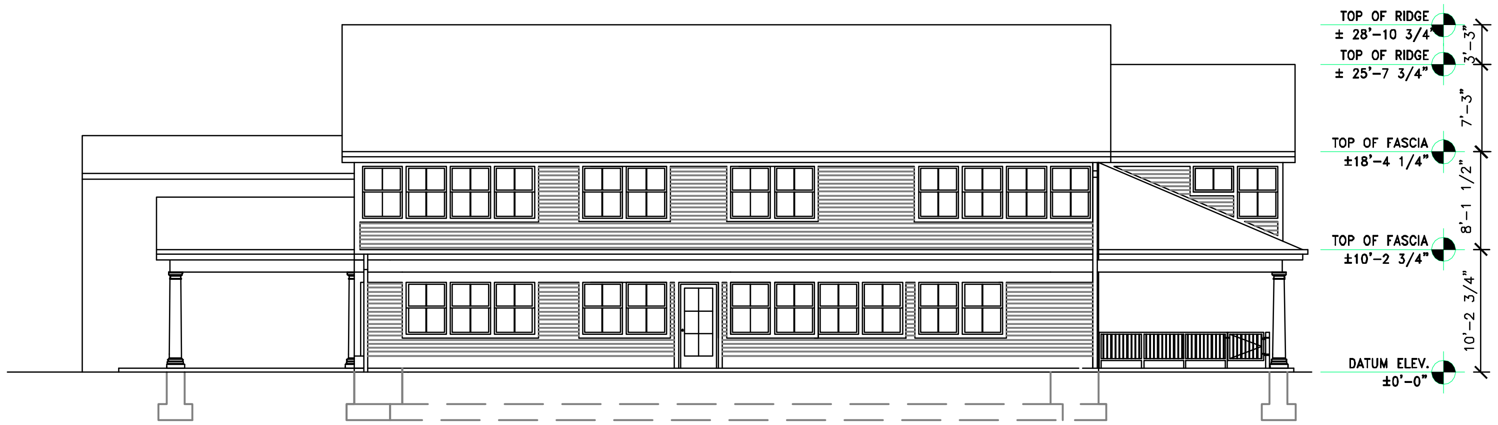
JACOBS

Approx. Scale: 1/16"=1'
0 8 16

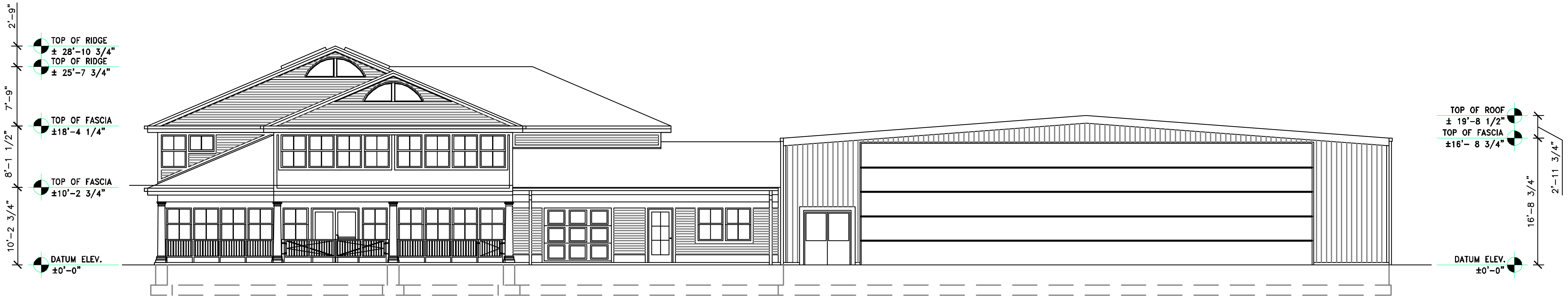
Provincetown Municipal Airport
Capital Improvements Plan

AIRPORT TERMINAL BUILDING
VERTICAL CONCEPT 1 ELEVATIONS

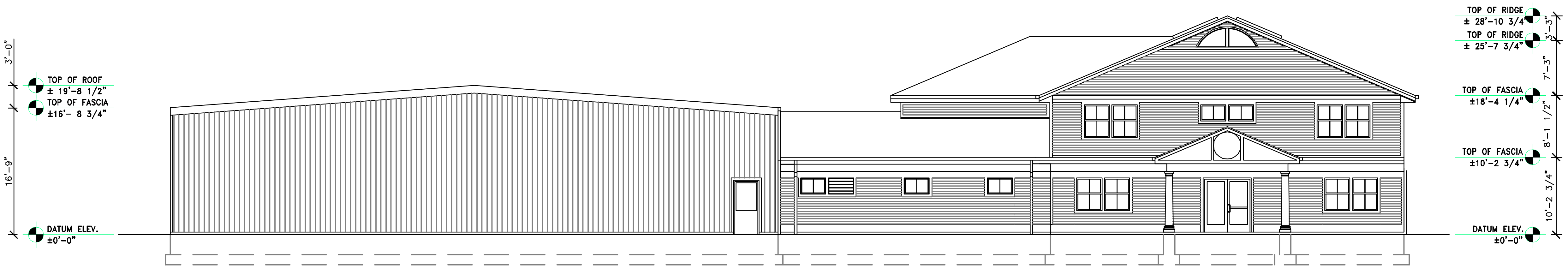
Figure 3.14



VERTICAL CONCEPT 2
WEST ELEVATION



VERTICAL CONCEPT 2
SOUTH ELEVATION



VERTICAL CONCEPT 2
ENTRY – NORTH ELEVATION

Prepared By:

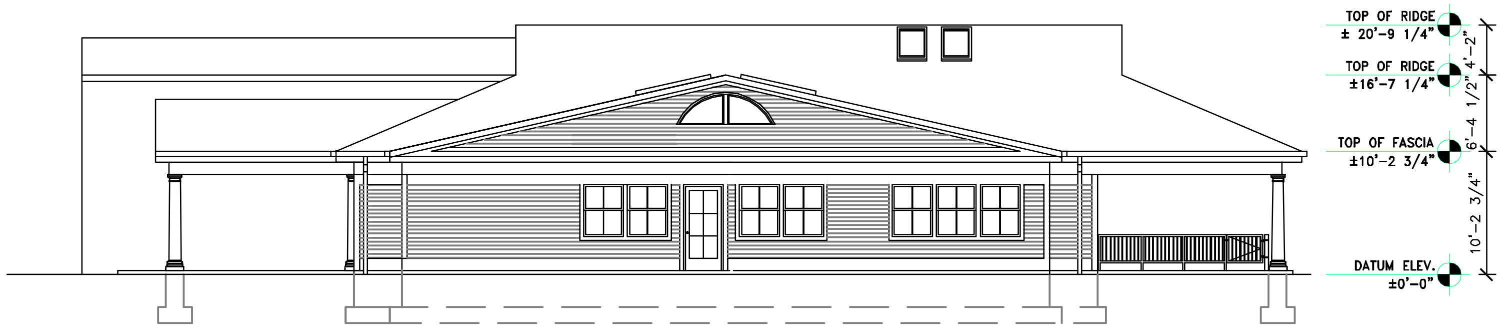
JACOBS

Approx. Scale: 1/16"=1'
0 8 16

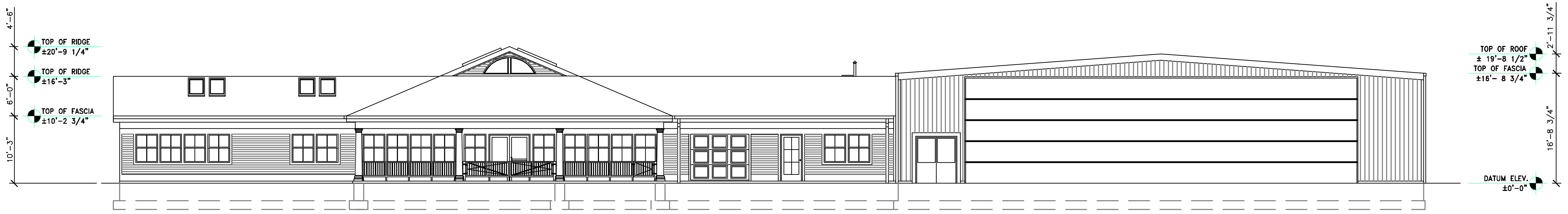
Provincetown Municipal Airport
Capital Improvements Plan

AIRPORT TERMINAL BUILDING
VERTICAL CONCEPT 2 ELEVATIONS

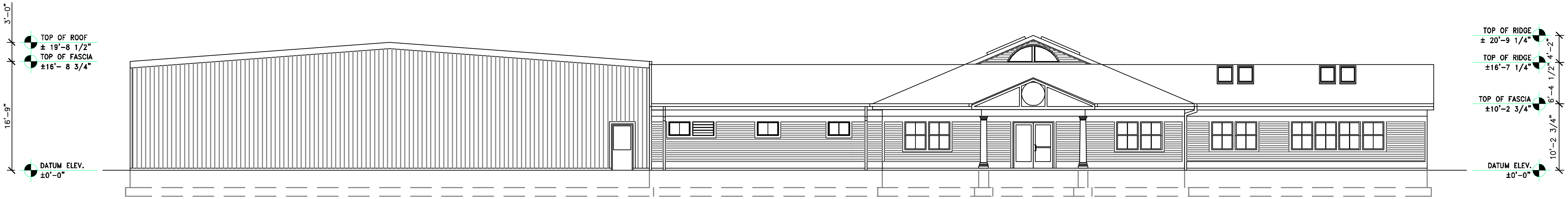
Figure 3.15



HORIZONTAL CONCEPT
WEST ELEVATION



HORIZONTAL CONCEPT
AIRSIDE – SOUTH ELEVATION



HORIZONTAL CONCEPT
ENTRY – NORTH ELEVATION

Prepared By:

JACOBS

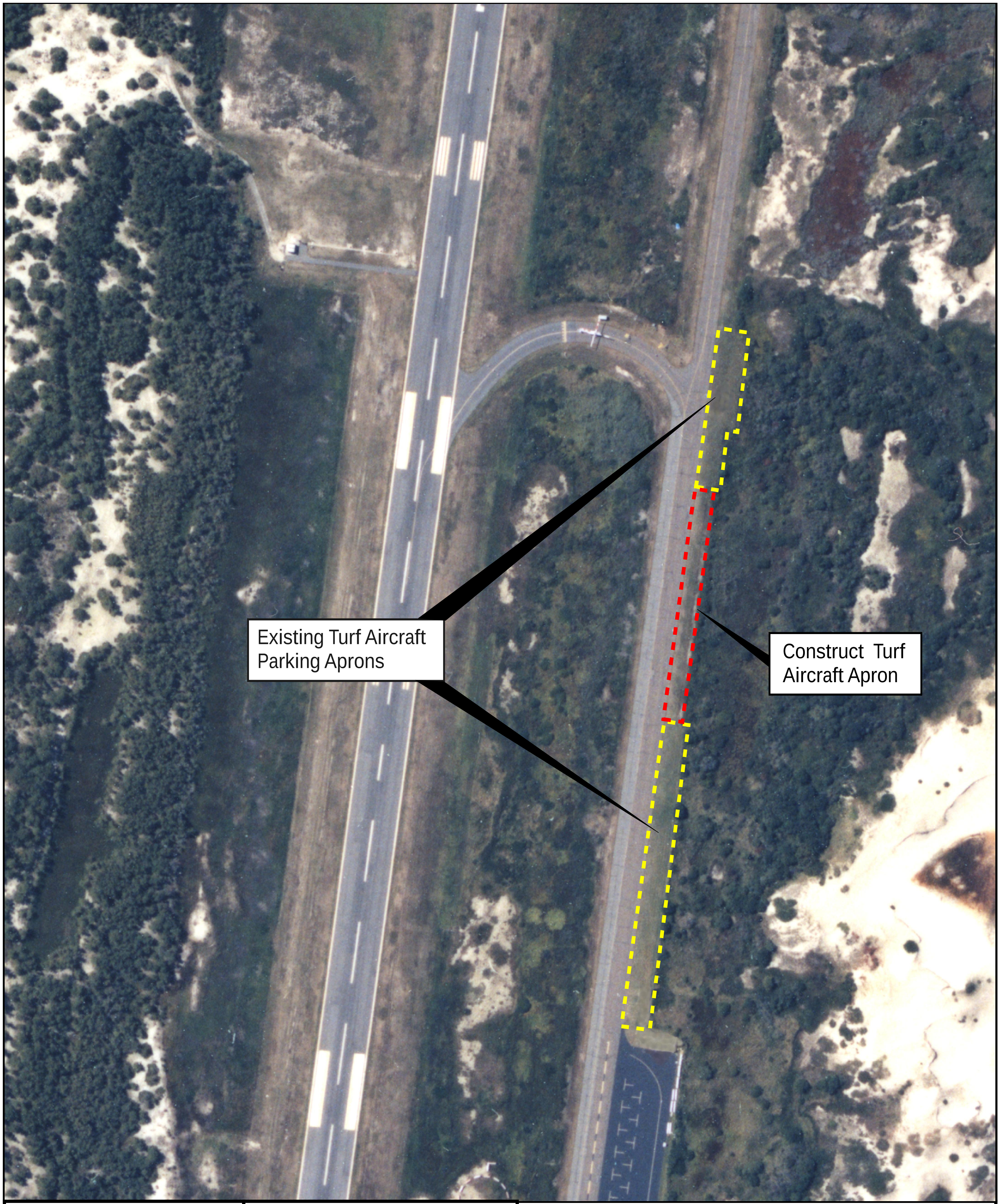
Approx. Scale: 1/16"=1'

0 8 16

Provincetown Municipal Airport
Capital Improvements Plan

AIRPORT TERMINAL BUILDING
HORIZONTAL CONCEPT ELEVATIONS

Figure 3.16


Existing Turf Aircraft Parking Aprons
Construct Turf Aircraft Apron

Prepared By:

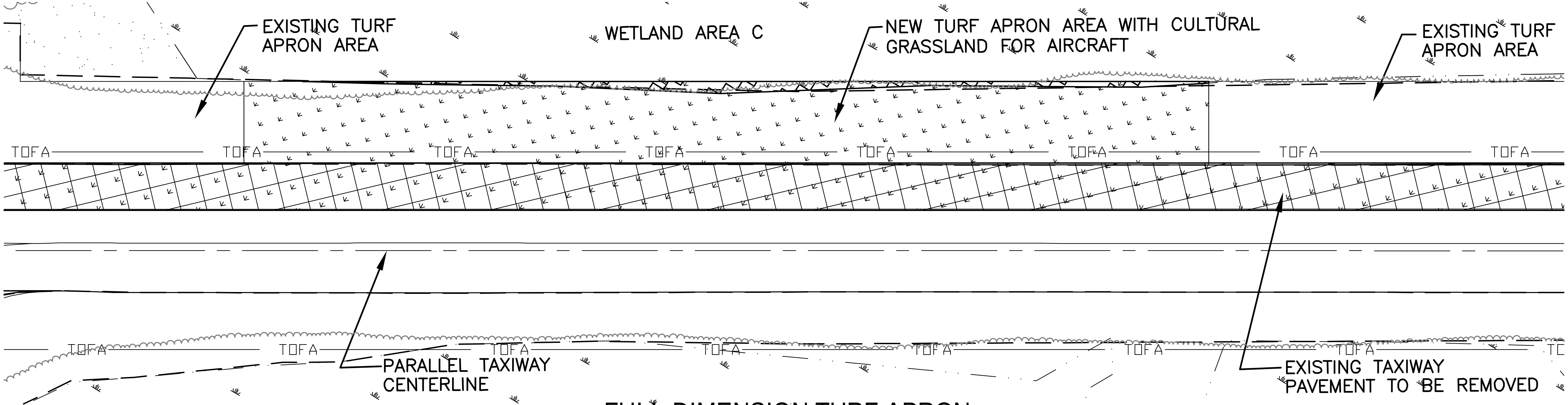
JACOBS

Source: Edwards and Kelcey 2007

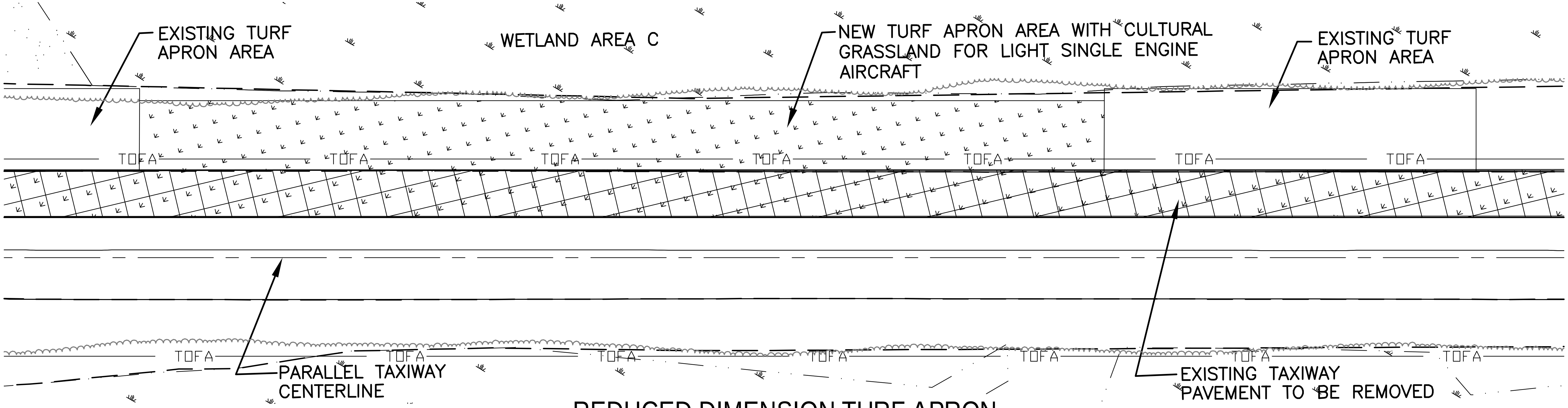
Provincetown Municipal Airport
Capital Improvements Plan

Turf Apron Improvements

Figure 3.17


EXISTING TURF APRON AREA
WETLAND AREA C
NEW TURF APRON AREA WITH CULTURAL GRASSLAND FOR AIRCRAFT
EXISTING TURF APRON AREA
TOFA
PARALLEL TAXIWAY CENTERLINE
EXISTING TAXIWAY PAVEMENT TO BE REMOVED

FULL DIMENSION TURF APRON


EXISTING TURF APRON AREA
WETLAND AREA C
NEW TURF APRON AREA WITH CULTURAL GRASSLAND FOR LIGHT SINGLE ENGINE AIRCRAFT
EXISTING TURF APRON AREA
TOFA
PARALLEL TAXIWAY CENTERLINE
EXISTING TAXIWAY PAVEMENT TO BE REMOVED

REDUCED DIMENSION TURF APRON

Prepared By:

JACOBS

- ▦ EXISTING IMPERVIOUS AREA TO BE REMOVED
- ◌ EXISTING DUNE AREA
- ● PROPOSED IMPERVIOUS PAVED AREA
- ▒ PROPOSED PERVIOUS GRAVEL AREA
- ▨ PROPOSED RESTORATION AREA
- ◌ EXISTING WETLAND AREA
- EXISTING TREELINE
- EXISTING BRUSHLINE
- ◌ PROPOSED CULTURAL GRASSLAND
- ◌ PROPOSED WETLAND IMPACT AREA

Approx. Scale: 1"=50'
0 25 50

Provincetown Municipal Airport
Capital Improvements Plan

TURF APRON ALTERNATIVES PLAN

Figure 3.18

SECTION 4.0 AFFECTED ENVIRONMENT

4.1 Introduction

This section provides a description of the existing built and natural environment at the Airport and the immediate surroundings.

4.2 Airport Facilities

The Airport is located in Provincetown, Massachusetts on the northern tip of Cape Cod (Figure 1.2). The Airport is within the Cape Cod National Seashore (CCNS), sited on approximately 322 acres of federally owned land administered by the NPS.

The Airport is a Non-hub Primary Service airport as defined by the FAA National Plan of Integrated Airport Systems. It is a public use, commercial service airport with scheduled Cape Air airline passenger service to and from Logan International, enplaning 10,000 or more passengers annually. JetBlue Airways and Cape Air have formed a marketing partnership. JetBlue has placed its code on flights operated by Cape Air, making it possible for customers to book travel on a single itinerary between Provincetown and other cities that connect through JetBlue at Logan.

The Airport is one of eleven airports in Massachusetts that have a runway with full Instrument Landing System (ILS) approach capabilities. Throughout this document the Airport is referenced using either its 3-letter FAA airport identification code, PVC, or as the Airport. This and other terms are defined in the document and the Glossary provided in Appendix 8.

The Airport consists of developed airside and landside areas maintained for airport facilities and operations, as well as undeveloped areas that consist of grasslands, coastal dunes, and wetlands. The existing environmental resources in the undeveloped areas of the Airport are discussed later in this Section.

Airside Facilities

Airside facilities include a single runway (Runway 7-25), a taxiway system, aircraft parking aprons (ramps), an approach lighting system (MALSF), navigational aids, and weather instrumentation (AWOS). See Figure 4.1, Airside Facilities, for the locations of these facilities.

Runway 7-25 is 3,500 feet long and 100 feet wide. The runway was first paved in 1948. The most recent reconstruction of the runway was completed in 2003 and also included construction of runway safety areas (RSA). The RSAs are now in full compliance with FAA design standards.

The taxiway system provides aircraft with direct routes between the terminal area and the runway. The taxiways at the Airport include a parallel taxiway and three entrance taxiways. The West End and Mid Connector taxiways are jug-handle shaped because at the time they were built, the large tail dragger DC-3 aircraft (no longer in use) was the largest aircraft using the runway. The jug handle shapes allowed the larger DC-3s landing on Runway 25 to exit the runway with a more gradual turn, and the smaller airplanes at somewhat higher speeds. The East End taxiway was reconstructed, but not relocated, as part of the reconstruction of the runway in 2003. The East End taxiway requires a 200-foot back-taxi to depart from Runway 25.

The aircraft parking aprons at the Airport include both paved and turf aprons. There are two paved parking aprons. One is adjacent to the terminal area (Terminal Apron) and is used to support commercial service at the Airport. The other paved apron (GA Apron), used by general aviation aircraft, is located southwest of the sightseeing shack (discussed later in this section). The two turf aprons are located west of the paved General Aviation apron along the parallel taxiway.

The ILS system consists of a glide slope antenna, the glide slope critical area (a flat area maintained to bounce radio signals), a localizer antenna and its critical area, and an approach lighting system and its critical area. The ILS allows aircraft to land at the Airport when visibility is reduced below three statute miles and ceilings are below one thousand feet. The Airport also has an on-field Automated Weather Observation Station (AWOS).

Landside Facilities

Landside facilities include a terminal building, aircraft hangar, an aircraft rescue and firefighting/snow removal equipment garage (ARFF/SRE), ground support facilities, the former administration building referred to as the Sightseeing Shack, and an auto parking area. See Figure 4.2, Landside Facilities, for the location of these facilities.

The terminal building, reconstructed in 1998, is an approximately 4,800 square foot single story wooden structure with post and beam construction. The terminal provides passenger facilities, Transportation Security Administration (TSA) screening areas, and a conference room. Passenger facilities include vending machines, bathrooms, ticketing counters, passenger queuing space, and passenger circulation and waiting areas. The interior of the terminal is shown in the following photo. Figure 4.3 shows the exterior of the building and the interior floor plan.

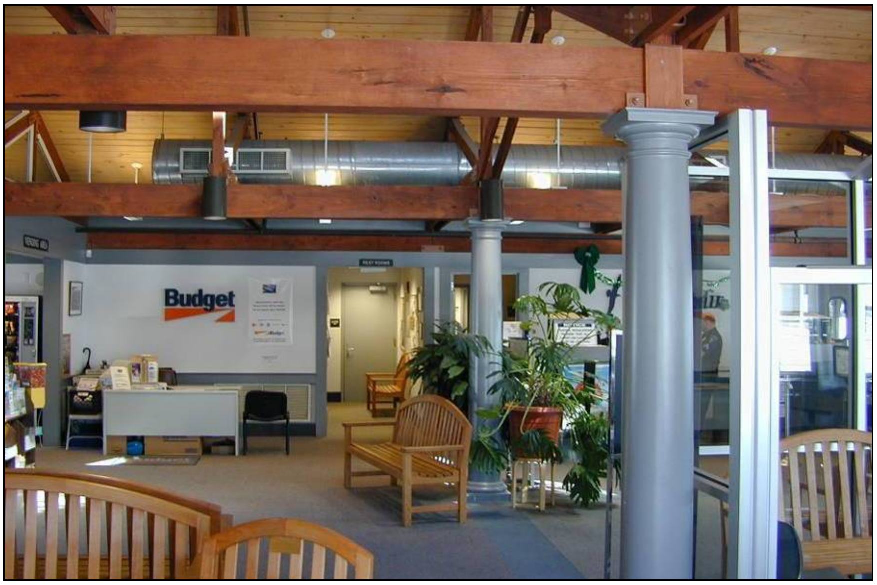


Photo 4-1 Interior of TerminalTSA area to right.

The single hangar at the Airport is owned by the Town of Provincetown and operated by Cape Air. Since 1989, Cape Air has been the Airport's Fixed Base Operator (FBO), as well as the commercial service operator for the Airport. The hangar, shown in the following photo, is a 6,000 square foot steel-framed structure that houses a large central bay for aircraft storage. No scheduled maintenance operations are conducted in the hangar. The hangar is attached to the passenger terminal building.

Photo 4-2 The Hangar. Several aircraft can be stored.

The fuel farm, shown in the following photo, is owned by the Town of Provincetown and leased by Cape Air. It is located west of the terminal building and northeast of the sightseeing shack. There is one 10,000-gallon below ground tank. The fuel tank is a double steel walled underground tank with a leak detection monitoring system.

Photo 4-3 The Secure Fuel Pump Station Earth covered fuel tank is in background.

The ARFF/SRE garage, owned by the Town of Provincetown, is located on the east end of the terminal ramp, next to the employee parking lot. The garage is approximately 40 feet wide by 80 feet long, as shown in the following photo. The garage houses the ARFF vehicle and some SRE equipment. Maintenance of these vehicles is conducted by the Town or private contractors, off-airport.

Photo 4-4 ARFF/SRE Storage Garage.

The Sightseeing Shack, owned by the Town of Provincetown, is thought to be the original administration building which was built around 1948. Passengers for the summer sightseeing flights used to wait on the porch but TSA restrictions now require passengers to wait in front of the Terminal until they are escorted to the planes. It includes a small bathroom (now out of service), airfield navigational aid electrical equipment, a Remote Communications Outlet (RCO) for radio signal repeater equipment, and the airfield electric lighting vault. There is a small front porch where GA pilots are requested to register as they arrive, as shown in the following photo.

Photo 4-5 Sightseeing Shack. Photo taken prior to TSA restrictions that now prohibit unescorted access to the building. FAA Communications is in background.

The Airport has free parking for passengers and visitors and an employee parking area. There are 62 automobile parking spaces located in front of the terminal building, on the north side as shown in the following photo. Five of these spaces are allocated for automobile rentals, four are allocated for taxi stands, and three are allocated for handicapped plate (HP) vehicles, with the remaining 50 spaces allocated for passengers and visitors. The central access aisles are paved with bituminous concrete, and the spaces consist of crushed gravel with a cement capstone to indicate individual parking spaces.

There is also a 20-space employee gravel parking area located east of the terminal area that can be seen in Photo 1-7. This parking area has no direct access to the terminal side of the Airport. There is a secure pedestrian gate for authorized employees, which allows access to the secure side of the terminal area. The employee lot consists of crushed gravel with no space boundary markings. There is a bituminous entrance road from Race Point Road leading across the NPS bicycle path into the employee parking area.

Photo 4-6 Entrance to Airport Parking Lot.

The Airport's existing security fencing is located at the east end of Runway 7-25, around the terminal apron and around the fueling station as shown in the following photo.

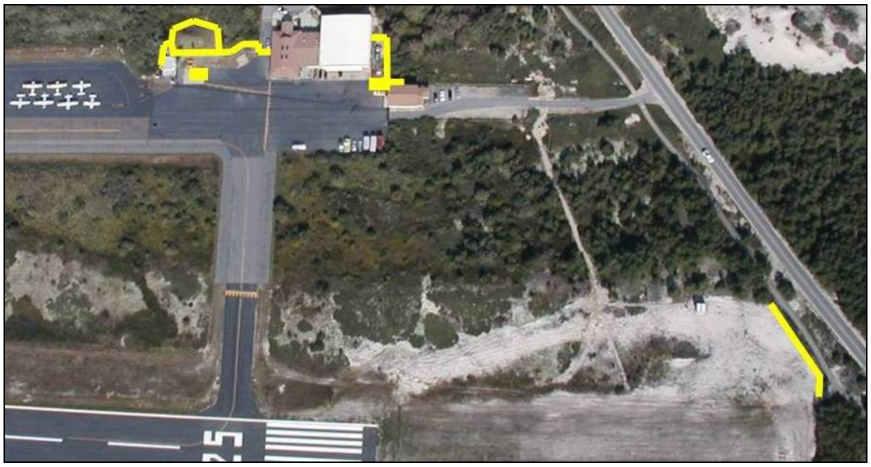


Photo 4-7 Existing Airport Security Fencing. Locations are indicated in yellow. Employee parking lot is in upper center of photo.

4.3 Transportation (Auto Parking/Aviation Operations/ Transportation Demand Management (TDM) / Pedestrian/Bicycle)

Auto Parking

The Airport parking lot has 62 spaces, including 3 spaces allocated for handicapped plate vehicles and 5 for the rental car company. Employees are required to park their vehicles in a separate, designated area.

Aviation Operations

An Aviation Operation refers to an aircraft arriving or departing the Airport. One aircraft arrival and departure is equal to two operations. In addition to an aircraft taking off or landing, an operation also includes aircraft flying approaches to the instrumentation located at the Airport (touch and go).

The Airport is serviced by Cape Air which is the commercial airline traveling between Boston International and Provincetown Airport. The number of commercial operations varies from four daily flights (eight operations) during the off-season to eight daily flights during the peak season. Previous peak seasons have indicated that up to eight sections (term used for additional planes) could be added to each flight time. This means that there are eight aircraft during one flight schedule period. Sections are added to flights in an on-demand passenger basis to support the number of passengers needing to fly to and from Boston.

The GA operations also vary during peak seasons. The summer months historically account for 75% of annual aircraft activity. There is also a corresponding change in the aircraft type using the airport. During off-season months, the typical aircraft are single engine piston and the twin engine Cessna 402. Summertime aircraft use includes a variety of larger turbine aircraft and helicopters.

The FAA maintains the navigational equipment at the Airport. There is a high demand and use of this equipment during the summer period. The FAA shuts down the runway when working on the majority of airfield navigational equipment during both routine maintenance and during periods that the navigational aids need adjusting. The AWOS navigational facility can be serviced during runway operations if the FAA can locate the service vehicle outside any object free area and away from a navigational critical area.

Transportation Demand Management (TDM) Measures

Currently, there are three measures in place that can be referred to as Transportation Demand Management (TDM) measures. These are rental car availability, taxi cabs, and a shuttle bus service to Provincetown managed by the Cape Cod Regional Transit Authority (CCRTA). A rental car company currently operates out of the Airport and 5 spaces in the parking lot are allocated for rental cars.

The primary taxi cab companies in Provincetown typically have one taxi coordinated with the arrival of the scheduled Cape Air commercial service. The cab companies encourage ride sharing during peak periods with a standard six dollars per person rate to downtown from the Airport.

The Breeze shuttle bus route has included a stop at the Airport during past summers. The shuttle bus schedule was not synchronized with Cape Air commercial flights. Due to funding issues, the shuttle service has been changed from a scheduled service to an "on-call" service.

Currently there is no fee to park at the Airport. Although summer beach visitors occasionally use the Airport parking lot instead of the beach lot to avoid a fee, it is unlikely that the parking capacity for Airport users is affected. At this time there is no plan to implement a parking fee because it would require additional staffing at the Airport.

Bicycles/Pedestrians

Bicycles are typically not a mode of transportation used to go to the Airport. However the Provincetown Airport is immediately adjacent to the Province Lands Bicycle Path, a dedicated off-road paved path that leads most of the way to Provincetown center.

Race Point Road does not have any sidewalks throughout its entire length and pedestrians are allowed to use the bicycle path as a walkway.

4.4 Wetlands and Wetland Buffer Zones

Wetlands

The Cape Cod National Seashore supports a wide variety of marine and freshwater resources formed by the geological events that created Cape Cod, many of which are found within the Provincetown Municipal Airport lands. The geologic characteristics combined with a fluctuating, seasonally-high groundwater table results in seasonal saturation of the upper portion of the soil profile for significantly long periods of time during early portions of the growing season. Inundated and/or saturated soil conditions favor the establishment of hydrophyte-dominant plant communities and the deposition of organic material, which are typical of wetland habitats. Rainfall received during storm events also contributes to saturated soil and inundated land conditions.

Wetland habitats at the Airport include isolated freshwater wetlands dominated by grass and herbaceous species (Palustrine Emergent Wetlands or PEM), shrub-dominated isolated wetlands (Palustrine Scrub-Shrub Wetland or PSS); and isolated freshwater forested wetlands (Palustrine Forested Wetland or PFO) dominated by pitch pine (*Pinus rigida*). These isolated wetlands, ranging in size from a few hundred square feet to several acres in size, are associated with coastal interdunal swales and are often separated from each other by low to moderate dune ridges closer to the airfield and extensive higher dune ridges, oriented approximately parallel to the Airport runway further out from the airfield. Isolated PSS wetlands also occur within the existing airfield, located between the existing taxiways and the runway, and separated from paved surfaces by managed grassland communities of varying width.

The shrub-dominant interdunal wetlands (PSS), which are the predominant type of wetland habitat at the Airport, have a non-tidal, seasonally or temporarily flooded water regime. The relatively dense shrub communities include plant species such as winterberry (*Ilex verticillata*), red maple (*Acer rubrum*), meadowsweet (*Spiraea latifolia*), highbush blueberry (*Vaccinium corymbosum*), northern bayberry (*Myrica pensylvanica*), red chokeberry (*Aronia* spp.), and American cranberry (*Vaccinium macrocarpon*), which often occurs in dense mats. Herbaceous plants observed frequently among the Airport wetlands include sphagnum moss (*Sphagnum* spp.), various sedges (*Carex* spp.), rushes (*Juncus* spp.), cinnamon fern (*Osmunda* *cinnamomea*), royal fern (*O. regalis*), and sensitive fern (*Onoclea sensibilis*), common reed (*Phragmites australis*), wide-leaf cattail (*Typha latifolia*), woolgrass (*Scirpus cyperinus*), and various goldenrods (*Solidago* spp.).

Within the pitch pine-forested area between the runway and the steep coastal dune habitat to the southeast of the Airport managed areas, there is an extensive mosaic of additional interdunal forested wetland swales. Within these freshwater wetlands, pitch pine has adapted to the seasonally saturated conditions and is considered a local wetland indicator species.

In the far western reaches of the Airport, there is a larger wetland system (Wetland C/J/FK) that transitions along a salinity gradient from a freshwater system (PEM-PSS-PFO) to a brackish system (primarily PEM, trending toward Estuarine Emergent Marsh or EEM) as groundwater seeps are met with the tidal influence of the Hatches Harbor estuarine system. Brackish portions of this wetland system are dominated by a non-native invasive species, common reed (*Phragmites australis*). Efforts to control and manage this invasive plant community were implemented in the early 2000s through the Hatches Harbor Restoration Project, and areas of Phragmites die-back with an emerging salt marsh community can be observed along the landward-reaches of the restored salt water regime influence. One small area of this emerging salt marsh plant community was identified and delineated in the field ("SM"). Wetland areas in the vicinity of the proposed project footprints for each project element, including potential alternative locations, were delineated in the field and are depicted on Figures 4.4 and 4.5 found at the end of this section. Wetland areas are also identified on figures in Sections 3 and 6.

It should be noted that the wetland areas at the airport are protected and regulated under several different wetlands laws, including the Federal Clean Water Act (33 U.S.C. 1251, et seq.), the Massachusetts Wetlands Protection Act (M.G.L. Ch. 131 § 40), the Town of Provincetown Wetlands Protection Bylaw (Chapter 12 of the Provincetown General Bylaws), and the Cape Cod Commission Act (Chapter 716 of the Acts of 1989). During the earlier planning stages of the Airport CIP projects, the Airport delineated only those wetland areas in close proximity to the proposed project elements and/or their alternative locations within the 322-acre Airport site. Each wetland area was assigned a unique alphabetical designation.

The wetland areas have been reviewed and approved by the local Provincetown Conservation Commission under state and local wetlands laws, specifically through an Abbreviated Notice of Resource Area Delineation (ANRAD). The Order of Resource Area Delineation (ORAD) was issued on January 25, 2007, and was recently renewed until January 2013. The U.S. Army Corps of Engineers has also issued a Preliminary Jurisdictional Determination (JD) under the Federal Clean Water Act, acknowledging the presence of "waters of the United States" at this site. A complete description of all delineated wetland areas and copies of the state and local wetlands approvals and the Preliminary JD are provided within Appendix 2. A brief description of the affected wetlands is provided below.

The West End TW is situated adjacent to Wetland C/J/FK (a transitional PSS-PEM in this location) and Wetland I (a scrub-shrub community), and is separated from these wetlands by managed grasslands. Vegetation within each of these wetland areas is maintained for Airport safety. As noted above, seaward portions of Wetland C/J/FK are tidally-influenced and evidence of dieback due to an increase in salinity near this TW End has been observed. Wetland I is non-tidal and has a seasonally or temporarily flooded water regime. Vegetation within Wetland C/J/FK in this location includes winterberry, arrowwood (*Viburnum* *dentatum*), meadowsweet, blue-joint (*Calamagrostis canadensis*), American cranberry, and rose (*Rosa* sp.). Lesser amounts of purple loosestrife (*Lythrum salicaria*), wide-leaf cattail (*Typha latifolia*), and woolgrass are also present, along with significantly large communities of common reed. Vegetation within Wetland I includes red chokeberry, winterberry, meadowsweet, steeplebush (*Spiraea tomentosa*), highbush blueberry, American cranberry, bayberry, and poison ivy (*Toxicodendron radicans*). Relocation of the West End TW will occur within a portion of Wetland I, while portion of the safety/security fence and the improvements to the access road for the MALSF approach lights will occur within freshwater portions of Wetland C/J/FK.

Photo 4-8 Coastal Interdunal Marsh Community. The view is south of runway with pitch pine dune habitat to the right.

The East End TW is adjacent to Wetland B. As with Wetland I, this isolated wetland is separated from impervious surfaces to its north, west, and south, by managed grasslands, and is bounded by low dune habitat to its southeast, east, and northeast. Plant species observed within Wetland B included American cranberry, highbush blueberry, dangleberry (*Gaylussacia frondosa*), meadowsweet, winterberry, pitch pine, willow (*Salix* spp.), various sedges and rushes, and small patches of common reed. Relocation of the East End TW and a portion of the security/safety fence will occur within portions of Wetland B.

Wetland C, which is one of the larger isolated wetlands at the Airport, is located immediately north of the existing partial parallel taxiway. This wetland is non-tidal and seasonally or temporarily flooded. This wetland is largely a scrub-shrub community, interspersed with emergent marsh habitat within its interior. Portions of Wetland C are managed to maintain Airport safety areas. Commonly observed plant species within this wetland included winterberry, arrowwood, meadowsweet, blue-joint, American cranberry, and rose. The easternmost corner of Wetland C, nearest the Airport terminal building and parking lot, is a forested palustrine habitat (PFO) supporting a mature community of willow trees. A portion of the security/safety fence will occur within a portion of Wetland C.

Wetlands L and K, located south of the Airport runway and adjacent managed grasslands, comprise a large isolated forested freshwater wetland (PFO) that gradually transitions to a scrub-shrub community in the southern and eastern portions of these wetlands. This wetland system is separated from surrounding isolated wetlands by low dune ridges and pockets of dune communities are found within its interior. Forested areas are dominated by pitch pine with a sparse shrub community and a groundcover dominated by cranberry. The northernmost portions of Wetland L are subject to vegetation management practices to maintain Airport safety zones, and woody vegetation is periodically cut once it reaches above a certain height. In these areas, the habitat is maintained as a PSS-PEM wetland community. Wetland K is largely open within its interior, supporting an emergent marsh community dominated by cranberry and various sedges and a small amount of common reed. Wetland K has been observed to support standing water throughout the year. A portion of the security/safety fence will occur within portions of Wetlands L and K, although not within the portion of Wetland K that supports year-round standing water.

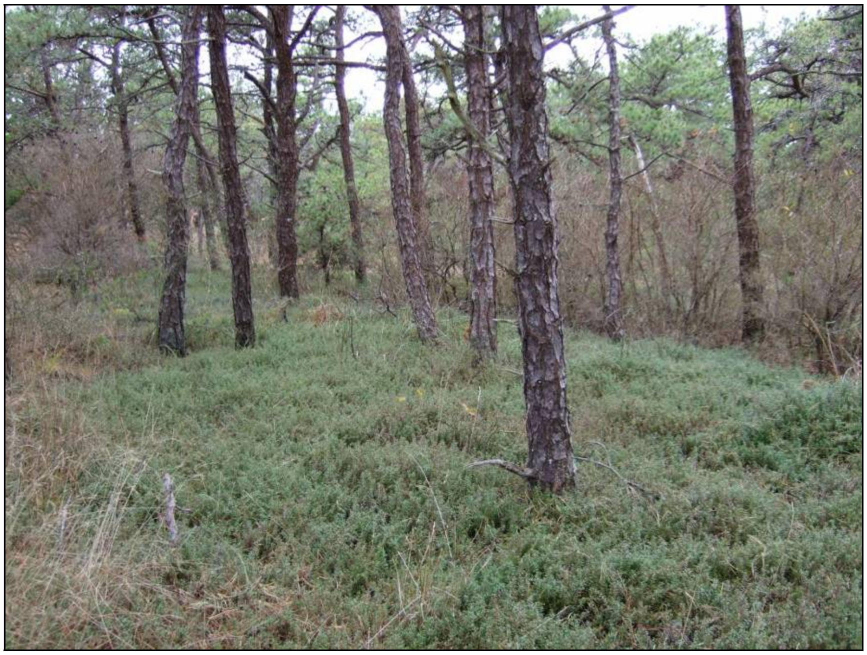


Photo 4-9 Cranberry-Pine Swales. This is considered a local wetland habitat type.

A series of smaller isolated wetlands interspersed with low rising dune ridges occupies the southeastern corner of the Airport. Smaller wetlands are occupied primarily by a few pitch pines with cranberries and occasional sedges, while moderate-sized wetlands are often forested along the perimeter with open cranberry swales intermingled with dense areas of shrubs toward the interior. Each of these wetlands is supported by a non-tidal, seasonally wet hydrologic regime. A portion of the security/safety fence will occur within portions of this series of freshwater wetlands, specifically within Wetland DB/FG, Wetland E/DD, and Wetland BC/F.

Wetland Buffers

Buffer zones, the upland (non-wetland) areas surrounding a wetland that often separate the wetlands from developed areas, also occur at the Airport. In accordance with certain state, regional, and local wetlands protection bylaws and regulations, most, if not all of the wetland areas found at the Airport are afforded a 100-foot jurisdictional buffer zone. The Corps, while not asserting jurisdiction over wetland buffers, recognizes the importance of maintaining undisturbed buffers around wetlands to further their protection.

In general, the jurisdictional 100-foot buffer zone to the wetland areas at the Airport consists of one or more of the following elements: undisturbed, naturally-vegetated coastal dunes, managed grasslands, impervious surfaces (buildings, pavement), or in some cases, where wetland areas are in close proximity to each other, the 100-foot jurisdictional buffer zone to one wetland may encompass one or more of the adjacent wetland areas. The collective 100-foot jurisdictional buffer zone to the wetland areas is depicted on Figure 4.5 at the end of Section 4.0. Areas of affected buffer zone are also identified in this figure.

4.5 Floodplain

In 1930, a dike was constructed across the Hatches Harbor salt marsh to restrict tidal flow to approximately 200 acres of salt marsh in an attempt to control salt marsh mosquitoes. In the 1940s the Airport was constructed on land that was filled in behind the dike. The Airport is within the 100-year floodplain as designated on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map dated 1985.

The Hatches Harbor Restoration Project was begun in the 1990s by the NPS in partnership with the Town of Provincetown to restore up to 90 acres of salt marsh behind the dike. Several local, state, and federal agencies approved the salt marsh restoration plan. During the winter of 1998-99, new culverts with adjustable tide gates were installed in the dike to gradually allow tidal flow into the marsh.

The isolated freshwater wetlands on the site are presumed to be Isolated Land Subject to Flooding (ILSF).

4.6 Coastal Dunes

Coastal dune habitats at the Airport can be classified as Maritime Dune, Maritime Shrubland, or Maritime Pitch Pine on dunes, as described in the Classification of the Natural Communities of Massachusetts published by the Massachusetts Natural Heritage & Endangered Species Program (NHESP). Dunes are hills of sand generally parallel to the coastline, which form a natural barrier between the sea and the mainland. The composition and structure of the vegetation depend on the dune stability. The dune closest to the beach is called the primary dune. Secondary dunes are landward of the primary dune.

The coastal dune habitats located along the lease line to the northwest of the airfield are mapped within the boundaries of the Race Point barrier beach system. Although the barrier beach system includes both primary and secondary dune habitats, there are no primary dunes located within the Airport lease area. Dunes north of the Airport are generally vegetated with American beachgrass and common hairgrass in open exposed areas. Occasionally, seaward-facing slopes (both primary and secondary dunes) are completely devoid of vegetation. Topography among these dunes varies widely from nearly flat to steeply sloping.

Horsley Witten Group

Photo 4-10 Open Coastal Dune Habitat The dunes along the northern lease line range from steeply sloping (on the left) to nearly flat (foreground).

The coastal dune habitats located to the southeast of the airfield are secondary coastal dune habitats that are not within the barrier beach system. While the topography among these secondary dunes is equally varied, the more stable substrate of these areas supports a greater diversity of vegetative species, including trees and shrubs. It is in these areas that communities of Maritime Pitch Pine on Dunes and Maritime Shrubland occur to varying degrees. Coastal dune areas are indicated on Figure 4.4.

Photo 4-11 Pitch Pine on Coastal Dune. Dune habitats located to the southeast of the Airfield include a mosaic of pitch pine and open areas.

4.7 Cultural Grasslands

Cultural Grassland habitat, shown on Figure 4.4, at the Airport includes primarily Cultural Grassland with incipient (or developing) Sandplain Grassland and/or Sandplain Heathland. Cultural Grasslands result from the Airport’s active mowing of the airfield’s operational safety areas, in compliance with FAA regulations, and occur adjacent to the taxiway and runway. These areas are mowed frequently to maintain runway and taxiway safety areas as well as the clear surfaces for navigational instrumentation. Sandplain Grasslands are open communities with grasses and occasional small shrubs, which are maintained naturally by fire and salt spray, and less frequently by vegetation pruning. Sandplain Heathland is open with shrubs and low-growing trees such as scrub oak. Additional information on the grassland habitats at the Airport is provided in the wildlife habitat report in Appendix 2.

Photo 4-12 Cultural Grassland. These areas adjacent to the parallel taxiway are maintained for safety.

4.8 Rare Species Habitat

There are no federally listed or proposed endangered or threatened species that have been identified at the Airport. The beaches north and west of the Airport are known to support federally-threatened piping plovers. Piping plovers are closely monitored by the NPS. They nest and forage primarily along the shoreline and, at lower densities, within the dunes and cobble fields south of the shoreline and adjacent to the Pole Line Route sand road. Plovers in these more interior areas frequently forage in the Hatches Harbor system. However, plovers have not been known to nest or forage in or adjacent to the Airport. The NPS has indicated that they treat all State-listed species (as listed by NHESP) the same as any Federally-Threatened or Endangered species, and, in addition to minimizing impacts, will seek to further their protection along with promoting their recovery and security on a Federal level.

The Massachusetts Natural Heritage Atlas (October 2008) maps the entire Airport lease area within both Priority Habitat of Rare Species and Estimated Habitat of Rare Wildlife and Certified Vernal Pools. These designations are made by the Massachusetts Division of Fisheries and Wildlife, NHESP. Based on observations made by NPS biologists and submitted to NHESP, the Airport is mapped for four State-listed rare species: Eastern Box Turtle, Eastern Spadefoot Toad, Vesper Sparrow, and Broom Crowberry. To support the preparation of the EIR/EA and permit applications, species-specific surveys were performed by the Horsley Witten Group (HW) between 2004 and 2005, and again in 2008. General wildlife habitat assessments were performed by HW staff between 2004 and 2006, with additional data gathered in 2007 and 2008. All habitats encountered were evaluated for their ability to provide suitable habitat for rare species. Of these four species, HW staff recorded a population of Broom Crowberry within the managed Cultural Grasslands near the glide slope antenna, and a single female Eastern Box Turtle was observed in June 2007. The presence of the other two species at the Airport, however, is confirmed in records of the NPS.

Habitat requirements for each of the four species and the location of potential habitat for rare species are discussed below. Figure 4.6, taken from the Natural Resources Inventory and Rare Species Habitat Assessment Report, provided in Appendix 2, depicts the approximate areas of potential habitat within the Airport lease area for each of the four species based upon field observations and supplemented with available source data from MassGIS for areas not assessed in the field. Since the filing of the DEIR, additional habitat assessments were conducted for the Eastern Spadefoot Toad to further refine potential habitat areas. The updated habitat information is reflected in this document.

Broom Crowberry

Broom Crowberry is a Massachusetts Species of Special Concern. It is a low-growing, densely branching evergreen shrub that inhabits open areas (low shrub communities or sandy flats, as well as dry pitch pine/scrub oak barrens and relic sand dunes). The NHESP-described natural communities with which this species is associated include Sandplain Heathland and Pitch Pine – Scrub Oak Communities. Broom Crowberry was previously reported at the Airport in the managed Cultural Grassland habitat. The presence of a small population of Broom Crowberry was confirmed within the Cultural Grassland area that is maintained for the glide slope critical area. Potential habitat for this species is located throughout the Airport lease area (outside of the wetland areas), although no additional individuals or populations of Broom Crowberry have been encountered.

Eastern Box Turtle

The Eastern Box Turtle is a Massachusetts Species of Special Concern. This small terrestrial turtle uses a relatively wide range of habitats, including woodlands, field edges, thickets, and wetlands. Optimal habitats on Cape Cod include pine barrens and oak thickets, where box turtles are associated with cranberry-dominated swales. This species would be considered a generalist in the context of habitat preference, and potential habitat for this species is found throughout the Airport lease area.

As noted above, a single individual Eastern Box Turtle was observed during an on-site meeting in June 2007. Suitable habitat for this species is present, particularly in areas within the southern portions of the Airport, which are classified as Maritime Dune and Coastal Interdunal Marsh/Swale communities. Here, foraging habitat and abundant food sources are found within close proximity to open areas of sand suitable for nesting habitat. All pitch-pine dominated habitats, including the cranberry-pine swales, as well as the lower slopes of the pitch pine and oak-dominant dune habitats provide potential habitat for Eastern Box Turtles.

Eastern Spadefoot Toad

The Eastern Spadefoot Toad is a Massachusetts Threatened Species. Reported habitat for this medium-sized toad species includes dry sandy or loose soils in areas of sparse shrub growth of open forest areas with adjacent shallow, temporary pools that provide breeding habitat. Portions of the Airport provide suitable habitat features for this species, particularly south and southeast of the Airport runway and, as noted above, presence of this species has been observed at the Airport by NPS biologists. A detailed habitat suitability study was conducted by HW field biologists in the spring of 2008 to identify prime and potential breeding habitat for this species at the Airport. HW worked in conjunction with Brad Timm, Ph.D. candidate and Eastern Spadefoot Toad specialist, to complete the field surveys of Eastern Spadefoot Toad habitat and to update the habitat maps included within this document (see Figure 4.7, and Appendix 2).

Vesper Sparrow

The Vesper Sparrow is designated as a Threatened Species in Massachusetts. This small sparrow is reported to inhabit open areas (cultivated fields, grasslands, fallow fields, and pastures), as well as Sandplain Heath lands. This species was not observed during the 2004-2006 habitat surveys, but has been recorded during prior surveys. Potential habitat for the Vesper Sparrow occurs within the managed Cultural Grasslands adjacent to the Airport runway, taxiway, and runway approach areas and the immediately adjacent maintained shrub thickets, as well as throughout the open grassy dune habitats to the north and west of the Airport. Regular mowing of the Cultural Grasslands as part of routine Airport maintenance, in part, provides suitable habitat for this species.

4.9 Drainage/Stormwater Management

Approximately six percent of the 322-acre airport site is paved. All stormwater runoff from the facility is discharged on site, through runoff infiltration. The Airport is located within the CCNS, and as such all waters (and wetlands) in and adjacent to the CCNS are designated Outstanding Resource Waters (ORW) pursuant to 314 CMR 4.06, Cape Cod Coastal Drainage Area.

Stormwater runoff from the runway, taxiways, GA paved apron, and most of the terminal apron drains via sheet flow to surrounding grass areas and infiltrates to underlying sandy soils. Salt and sand are not applied by the Airport to these paved areas.

Roof drains from the terminal building, hangar, and equipment garage all flow to the ground and either drain off the pavement and infiltrate into the ground or flow into the catch basins.

The stormwater drainage system on the terminal apron towards the ARFF/SRE garage consists of two catch basins, associated outfalls, and a trench drain, which drains into the outflow pipe for one of the catch basins. These structures collect sheet flow from small areas of the apron in front of the terminal and ARFF/SRE garage to prevent flooding and/or icing. The catch basins and trench drain have been fitted with a filtration system to intercept petroleum-based pollutants from the stormwater runoff. The filtration system contains adsorbent material that is an inert blend of minerals known as amorphous alumina silicate, which removes pollutants.

There are two automobile parking lots on the Airport property. The main parking lot, located on the north side of the terminal building, has paved traffic aisles with the parking spaces and median unpaved. The median is also equipped with a gravel swale to facilitate drainage. The smaller lot, for employee parking was constructed in a similar manner.

A Stormwater Pollution Prevention Plan (SWPPP) and a Spill Prevention Control and Countermeasures Plan (SPCCP) have been prepared for the Airport. The draft SPCCP is included in Appendix 3.

4.10 Visual Environment

The visual environment of the Airport consists of the underlying landform and the land cover (both natural and man made development). The underlying landform consists of a relatively flat floodplain surrounded by low undulating topography with long views and an open feeling. The sand dunes, grasslands and tidal flats with long views of the water and sky are defining natural landforms.

The existing visual environment of the Airport consists of a combination of natural and man made features. The visual appearance of the landscape is dependent upon the underlying landform and its land cover. The natural elements include coastal dunes, grasslands, wetlands, and the Hatches Harbor salt marsh. The vegetation cover includes grasses, shrubs, and thickets of pitch pine and scrub oak. Beyond the immediate areas surrounding the Airport facilities views of the ocean can be seen.

Since 1947, the Airport has been a component of the man made visual environment of the Outer Cape. The man made elements within the Airport include several buildings of various sizes such as the Terminal Building, the hangar, the maintenance equipment building, and Sightseeing Shack. Additional vertical elements at the Airport include the FAA instrumentation tower and light poles The Airport area also has flat horizontal elements including the runway, the system of taxiways, and aircraft parking areas, as well as auto parking areas.

Nearby man-made elements include NPS buildings such as the Old Harbor Life Saving Station, the Province Lands Visitor Center and its 170 car parking lot, as well as the tiered, approximately 340 car parking lot for Race Point Beach. Paved roadways, including Race Point Road and Province Lands Road, and the NPS bike path are also man-made elements within the visual environment.

An assessment of the existing visual environment is provided to support the evaluation of visual impacts to the environment. The Airport and adjacent areas were divided into Visual Assessment Units. The Visual Assessment Unit is a combination of a specific landscape element and the surface area visible from a given viewpoint (viewshed). These Units provide a framework for the assessment of visual resources and potential impacts. Since a characteristic of the CCNS is the vast spatial extent, one of the Units is the distant horizon. The Units are illustrated in the accompanying photos.

The Units are discussed below in terms of landscape character, quality, and viewer groups. The dominance of form, the scale and diversity of elements, and continuity of the texture and color of the landscape form landscape character. Three elements that contribute to landscape quality include: Vividness, Intactness, and Unity. Vividness is the impression received from the visual pattern of contrasting elements. Intactness relates to the visual order of elements. Unity is the degree to which elements combine to form a harmonious visual pattern.

Viewer groups are defined in this document to include Airport user groups with a view from the airfield and terminal area as well as groups with a view of the Airport area (airfield and other currently non-secured undeveloped areas within the lease area) from various view points. Although views of the Airport are visible by users of Race Point Road, the duration of the view is limited and for that reason, users of the road are not included as a specific viewer group. Users of the road are likely to be included in one of the following viewer groups:

A. Visitors at the Province Lands Observation Platform
B. Visitors at Race Point Beach Parking Area
C. Hikers / Hunters/ Off-road users
D. Users of the bike path
E. Commercial airline users
F. Passengers on sightseeing flights

Visual Assessment Units

1. Airfield

The airfield includes the runway, taxiway system, aircraft parking areas (referred to as aprons or ramps), managed grassland safety areas, the weather/navigation equipment within the infields, and sections of existing security fence. The airfield is of a uniform flat topography. Even though the area includes unpaved and paved areas, the visual character is one of uniform color, line, and texture because the specific elements are in the same horizontal plane and are similar in color except for the AWOS which is required to be a bright color. The overall airfield can only be seen from a distance by viewers in planes or at the NPS Visitor Center's observation platform. From that perspective individual elements are not very distinct. The overall airfield can be seen by Viewer Groups A, E, and F. On the ground, a small portion of the airfield at the end of Runway 25 can be seen by viewer group D. Hikers and hunters may experience views of portions of the airfield, but this is not an authorized public viewpoint and has not been included in this evaluation.

Photo 4-13 View of Airfield runway.

Photo 4-14 View of Taxiway and GA Apron.

2. Airside Terminal Area

The airside terminal area consists of the Airport buildings and terminal apron. The buildings include the airside portion of the terminal building (back) with the terminal aircraft parking apron, the hangar, the equipment building, the TSA trailer, and the Sightseeing Shack. The colors of the buildings and roofs are muted pinks, grays, and whites which blend in with the surrounding muted colors of the sand dunes, vegetation and ocean.

The airside terminal area can be seen from several viewpoints. From a distant viewpoint at the Province Lands Visitor Center observation deck, the buildings tend to flatten and have less mass. Within this viewshed, Race Point Road is a dominant visual element, along with the Beach parking area, and the horizon with the vertical elements of the former NPS Coast Guard buildings in the distance at Race Point Beach as seen in Photo 4-9.

Users of the CCNS Race Point Beach parking area also have a view of the landside terminal area which is discussed next, along with the auto parking visual assessment unit.

The airside of the Terminal Building can be seen at a distance by Viewer Groups A, E, and F. From a distance the height of the buildings is not evident and the color of the roofs and siding match the surrounding color scheme of the landscape.

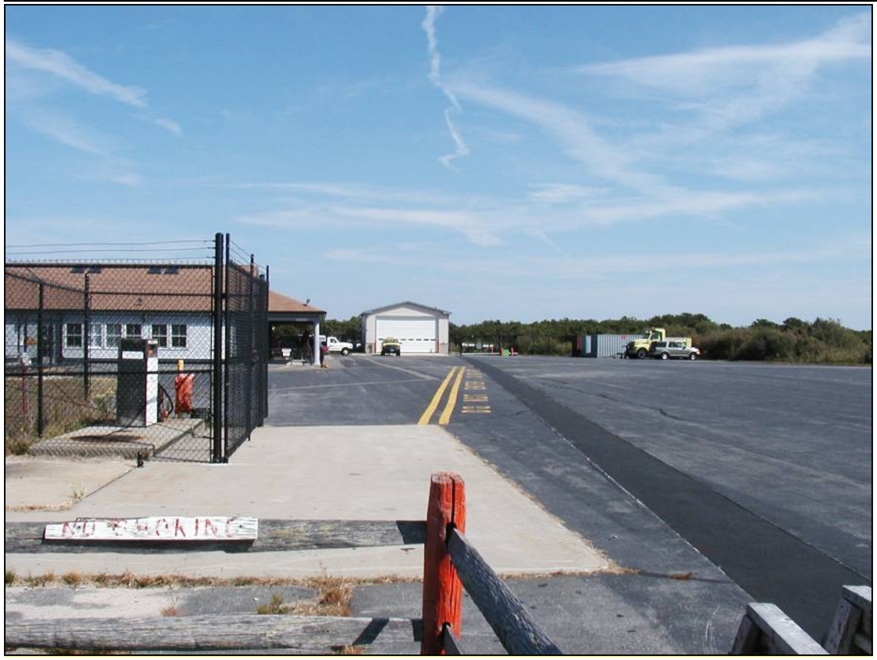


Photo 4-15 Airside Terminal Apron Area. The ARFF/SRE garage is in the background with the fueling area on the left.

Photo 4-16 View from Visitor Center Observation Deck. Race Point Road is in the center and the Airport is on the left.

Photo 4-17 Airside Terminal and Apron

3. Airport Auto Parking Area and Landside Terminal Entrance

The auto parking area for the Airport is located at the front public (landside) entrance to the terminal. The lot has a paved access with a gravel base for the angled parking spaces.

The parking area can be seen from Race Point Road and the CCNS Race Point Beach parking lot, as well as by users of the bike path (Viewer Groups B and D). The parking area is also one of the visual elements in the Race Point Road intersection assessment unit discussed below. These viewer groups are within the viewshed for a short period of time and are generally on their way to other recreational areas. The parking lot cannot be seen from the observation platform and cannot be seen by users of the beach, two places where viewers tend to stay for a longer period of time.

Photo 4-18 View from NPS Beach Parking Lot. Terminal Area is in the background.

Photo 4-19 View from Bike Path. Auto parking area and Terminal entrance is in the background.

Photo 4-20 Terminal Entrance

Photo 4-21 Entrance to Airport Parking Area

4. Coastal Dunes

Coastal dunes are the predominant visual element within the Airport lease area and the Outer Cape in general. The dunes are seen from every viewpoint and at various distances. Views of the coastal dunes are provided in many photos in this section and throughout the document.

Photo 4-22 GA Parking Apron. View of northern dunes from East End taxiway.

5. Freshwater Wetlands

Although there are many isolated wetland areas within the Airport lease area, the areas are not immediately recognized as wetlands since they do not have large expanses of open water with marsh-like vegetation such as seen in the salt marsh area discussed below. The areas can be visually striking as seen in the following photo but tend to be seen visually as part of the coastal dune habitat, especially during dry periods. Additional photos of the wetlands are provided in the previous Section 4.3.

Photo 4-23 Northern Dunes. Isolated wetlands and dunes north of terminal.

6. Hatches Harbor Salt Marsh

Hatches Harbor is an approximately 200-acre salt marsh located west of Runway 7-25. Because of the topography, it is not readily seen from the ground except along the dike road, which is only accessible to hikers and off-road vehicles. The marsh can be seen in the cover photo.

7. Intersection of Race Point Road / Airport Access Drive / Beach Parking Lot Access Drive and Bike Path

Race Point Road is the main access road to the Airport and Race Point Beach. It is a two lane paved roadway that is maintained year round. Much of the roadway length is bordered by pitch pine forest. The view opens up as it enters the sandy open coastal dune habitat. At the intersection of Race Point Road, Airport Drive, the bike path, and the Beach parking lot driveway, views of the landside portions of the Airport and parking lot are visible as well as the FAA communication tower. Also within this visual unit are signs to the beach parking lot and other attractions.

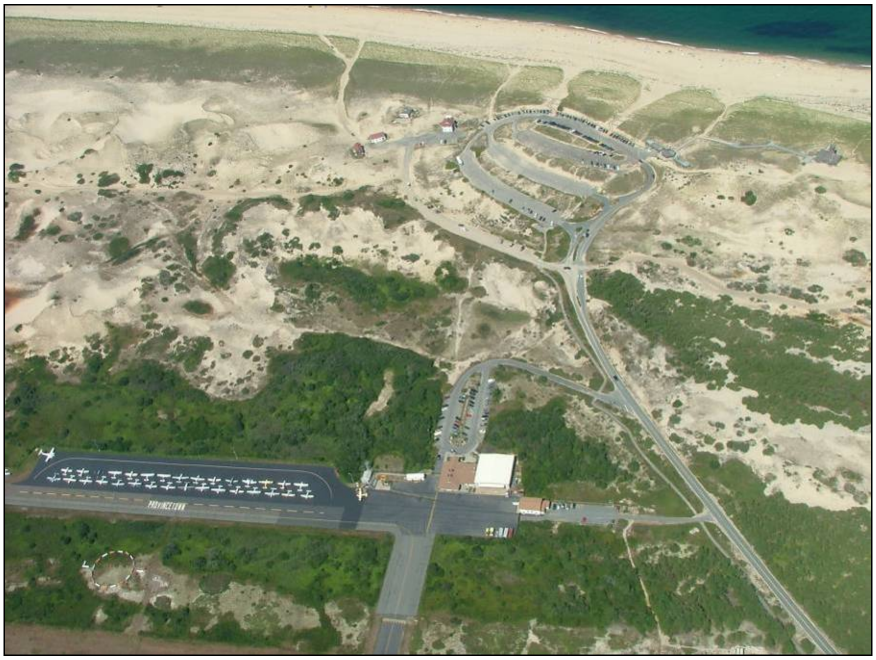


Photo 4-24 Aerial View. Airport is at bottom of photo and NPS Race Point Beach Parking Lot is at the top of photo.

Photo 4-25 Race Point Road Intersection with Airport Entrance.

Photo 4-26 Airport Entrance Drive. Intersection with bike path.

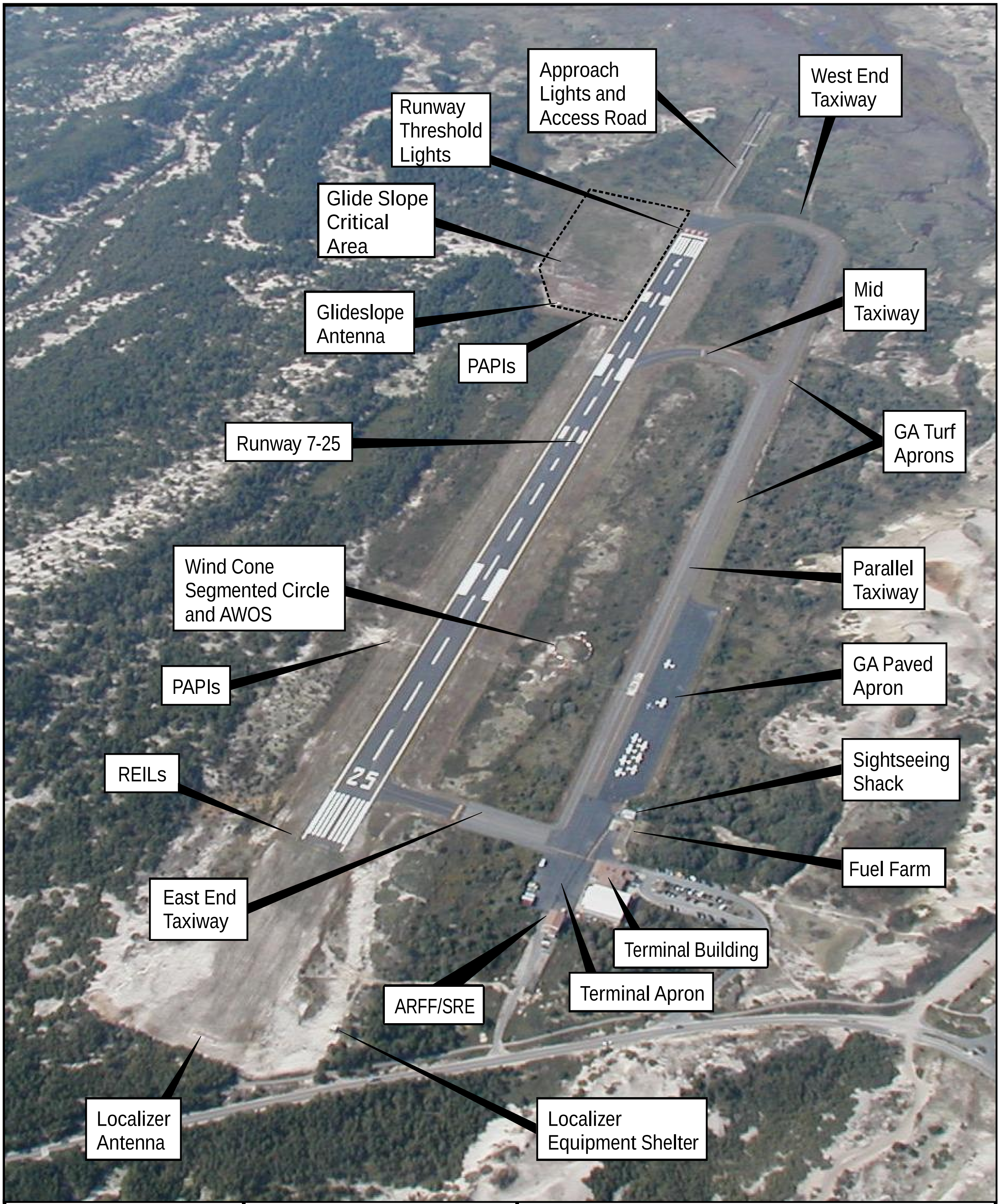
8. Horizon

The horizon is a dominant visual feature of the Outer Cape where long views of the horizon can be seen from certain perspectives over the salt marsh and coastal dunes. The horizon cannot be seen by users of the Airport because the airfield is lower than the surrounding coastal dunes and Hatches Harbor dike. The horizon can be seen by viewers on the observation platform at the Province Lands Visitor Center (Viewer Group A, Photo 4-9). The view of the horizon includes natural features as well as the former Coast Guard buildings maintained by the NPS. The Airport buildings are below the horizon line and contained within the back-dune area of pitch pine and scrub oak vegetation.

4.11 Section 4(f) Properties

Section 4(f) of the Department of Transportation Act of 1966, recodified at 49 U.S.C. 303 (c) but still referred to as Section 4(f), provides that the Secretary of Transportation will not approve any project that requires the use of any publicly owned land that is part of a park or recreation area unless there is no feasible and prudent alternative to the use of such land and the project includes mitigation to minimize impacts.

The land under the Airport would be considered public land as defined by Section 4(f) because it is owned by the U.S. Department of the Interior and is within the CCNS, a unit of the NPS. However, Section 3 of the 1962 authorization that conveyed the Commonwealth Province Lands to the United States for the establishment of the CCNS provides that a portion of the Province Lands are subject to a pre-existing lease for public airport and access purposes. Since the establishment of the CCNS, the Airport operates under Special Use Permits (included in Appendix 5). The NPS leases land within a prescribed boundary designated for aviation operations. This boundary is indicated as the Airport lease line on plans and figures in this document.



Prepared By:

JACOBS

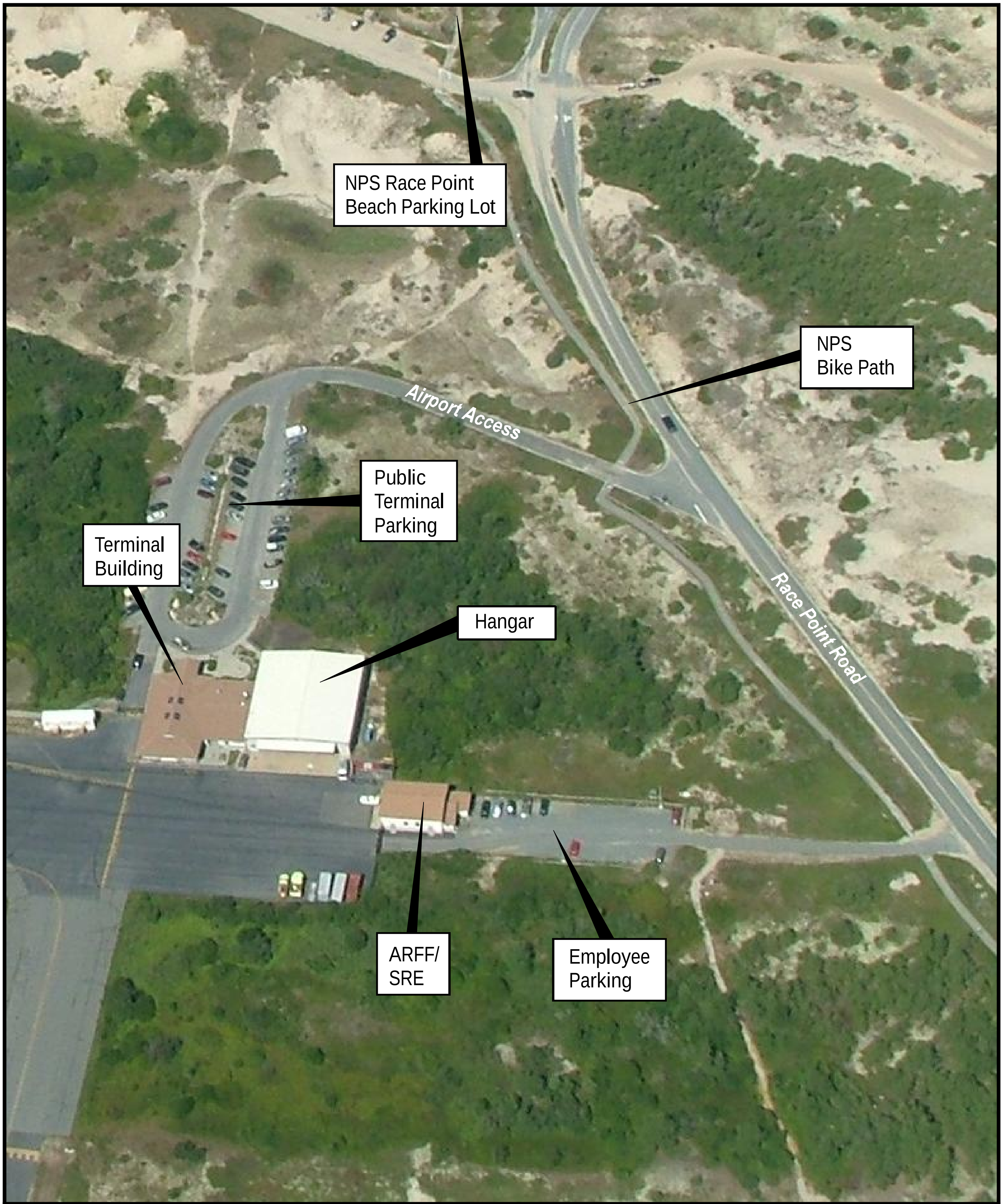
Note: See Glossary for definitions and descriptions of acronyms

Source: Edwards and Kelcey 2004

Provincetown Municipal Airport
Capital Improvements Plan

Airside Facilities

Figure 4.1



Prepared By:

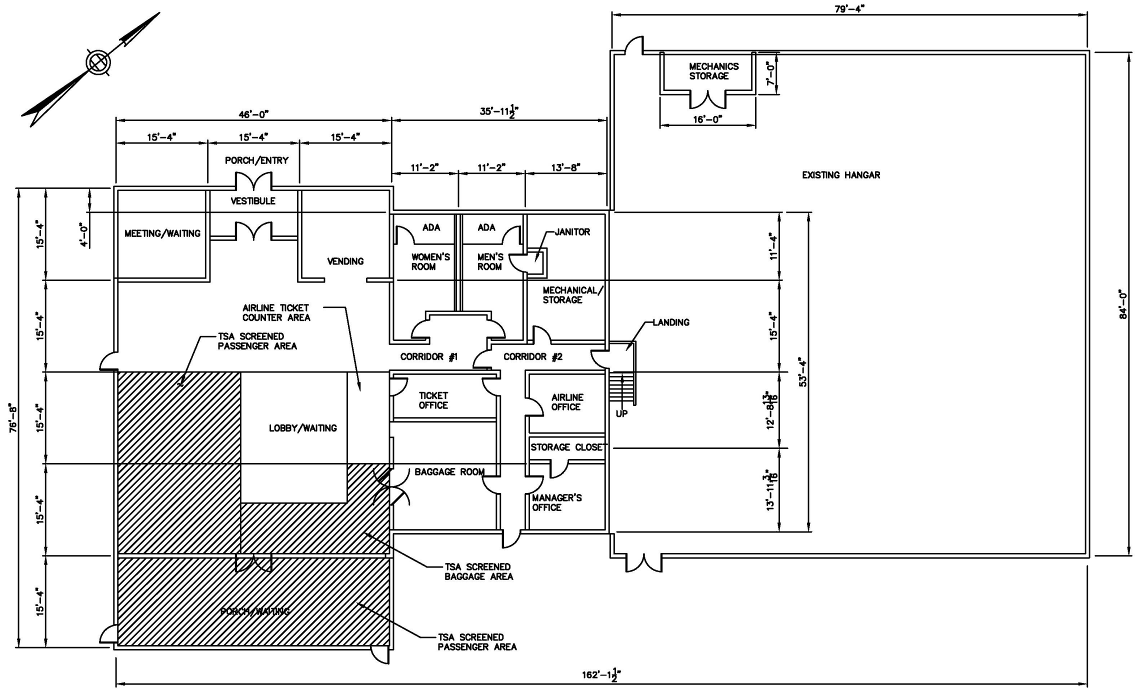
JACOBS

Source: Edwards and Kelcey 2005

Provincetown Municipal Airport
Capital Improvements Plan

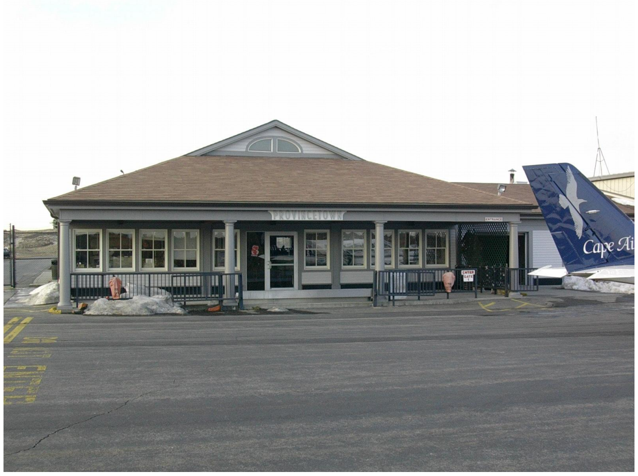
Landside Facilities

Figure 4.2



Existing Terminal Building and Hangar Floor Plan
(TSA occupied space ▨)

Terminal Building from Landside



Terminal Building from Airside

Prepared By:

JACOBS™

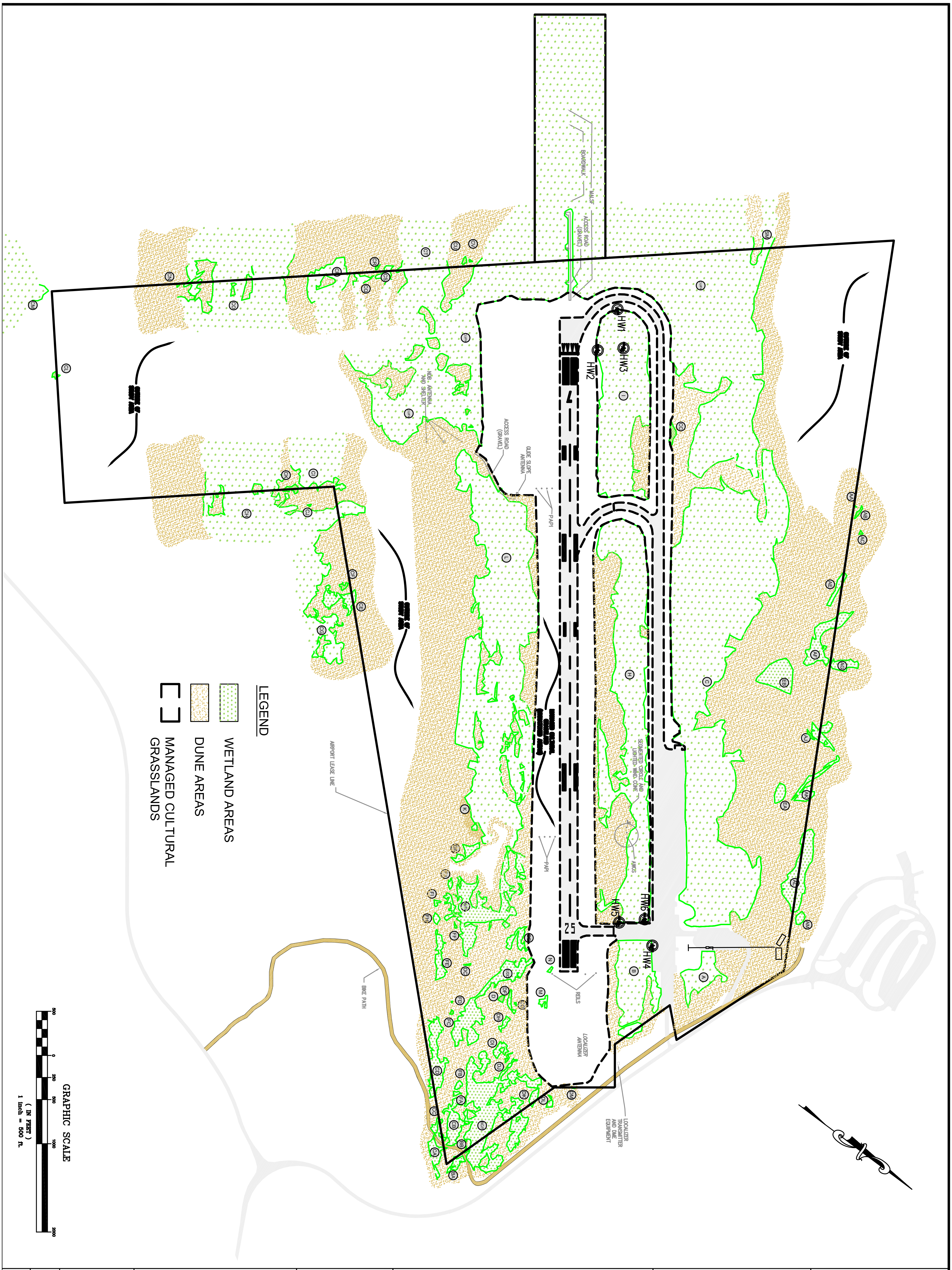
Source: 2003 Terminal Floor Plan
Edwards and Kelcey 2004

Provincetown Municipal Airport
Capital Improvements Plan

Existing Terminal Building

Figure 4.3

last modified: 12/09/09 printed: 01/29/10 by bk H:\Projects\2004\4027 E&K-PTown Airport\Drawings-4027\dwg\4027 WETLANDS 2006.dwg



Sheet Number:

Project Number:
4027A

Registration:

Survey Provided By:
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90 Route 6A Sandwich, MA
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Dated: December 2006

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508-487-0241
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Plan Set:
PROVINCETOWN MUNICIPAL AIRPORT
PROVINCETOWN, MA

Plan Title:
FIGURE 4.4
RESOURCE AREA PLAN

Horsley Witten Group
Sustainable Environmental Solutions
www.horsleywitten.com
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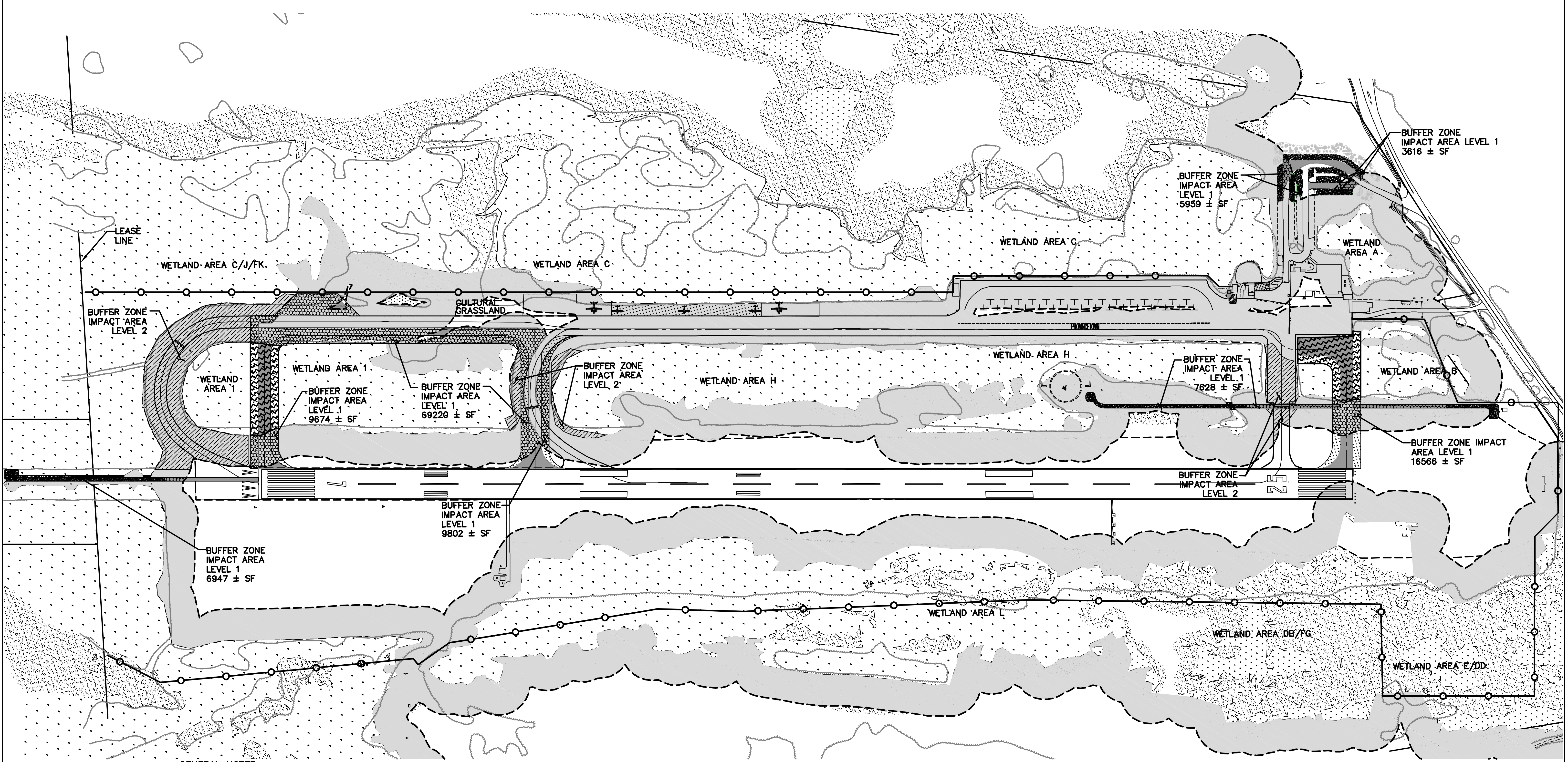
508-833-6600 voice
508-833-3150 fax

Date: 11/06/07
Designed By:
Drawn By: ERK
Checked By: AB

Revisions

Rev.	Date	By	Appr.	Description
1	9/16/08	ERK	AMB	Updated Cultural Grasslands
2				
3				
4				
5				
6				
7				


BUFFER ZONE IMPACT AREA LEVEL 1 3616 ± SF
BUFFER ZONE IMPACT AREA LEVEL 1 5959 ± SF
WETLAND AREA C
WETLAND AREA A
LEASE LINE
WETLAND AREA C/J/FK
WETLAND AREA C
BUFFER ZONE IMPACT AREA LEVEL 2
CULTURAL GRASSLAND
WETLAND AREA H
WETLAND AREA 1
WETLAND AREA 1
BUFFER ZONE IMPACT AREA LEVEL 1 9674 ± SF
BUFFER ZONE IMPACT AREA LEVEL 1 69220 ± SF
BUFFER ZONE IMPACT AREA LEVEL 2
WETLAND AREA H
BUFFER ZONE IMPACT AREA LEVEL 1 7628 ± SF
WETLAND AREA B
BUFFER ZONE IMPACT AREA LEVEL 1 16566 ± SF
BUFFER ZONE IMPACT AREA LEVEL 2
7
25
BUFFER ZONE IMPACT AREA LEVEL 1 9802 ± SF
BUFFER ZONE IMPACT AREA LEVEL 1 6947 ± SF
WETLAND AREA L
WETLAND AREA DB/FG
WETLAND AREA E/DD

GENERAL NOTES:

1. SEE FIGURE 4.1 FOR DETAILED WETLAND AREA IDENTIFICATION.
2. BUFFER ZONE IMPACT AREA LEVEL 1 TO BE CONVERTED TO AIRPORT MANAGED AREA (PAVEMENT, GRAVEL, OR GRASSLAND).
3. BUFFER ZONE IMPACT AREA LEVEL 2 TO BE CONVERTED TO NATURAL RESOURCES.
4. FOR ALL AREAS OF LEVEL 2 RESTORATION SEE FIGURES IN SECTION 7.

Prepared By:

JACOBS

Legend:

- BUFFER ZONE IMPACT AREA LEVEL 1
- BUFFER ZONE IMPACT AREA LEVEL 2
- WETLAND BUFFER ZONE
- PROPOSED IMPERVIOUS PAVED AREA
- PROPOSED SECURITY FENCE
- EXISTING WETLAND AREA
- EXISTING TREELINE
- EXISTING BRUSHLINE
- PROPOSED WETLAND IMPACT AREA
- PROPOSED PERVIOUS GRAVEL AREA

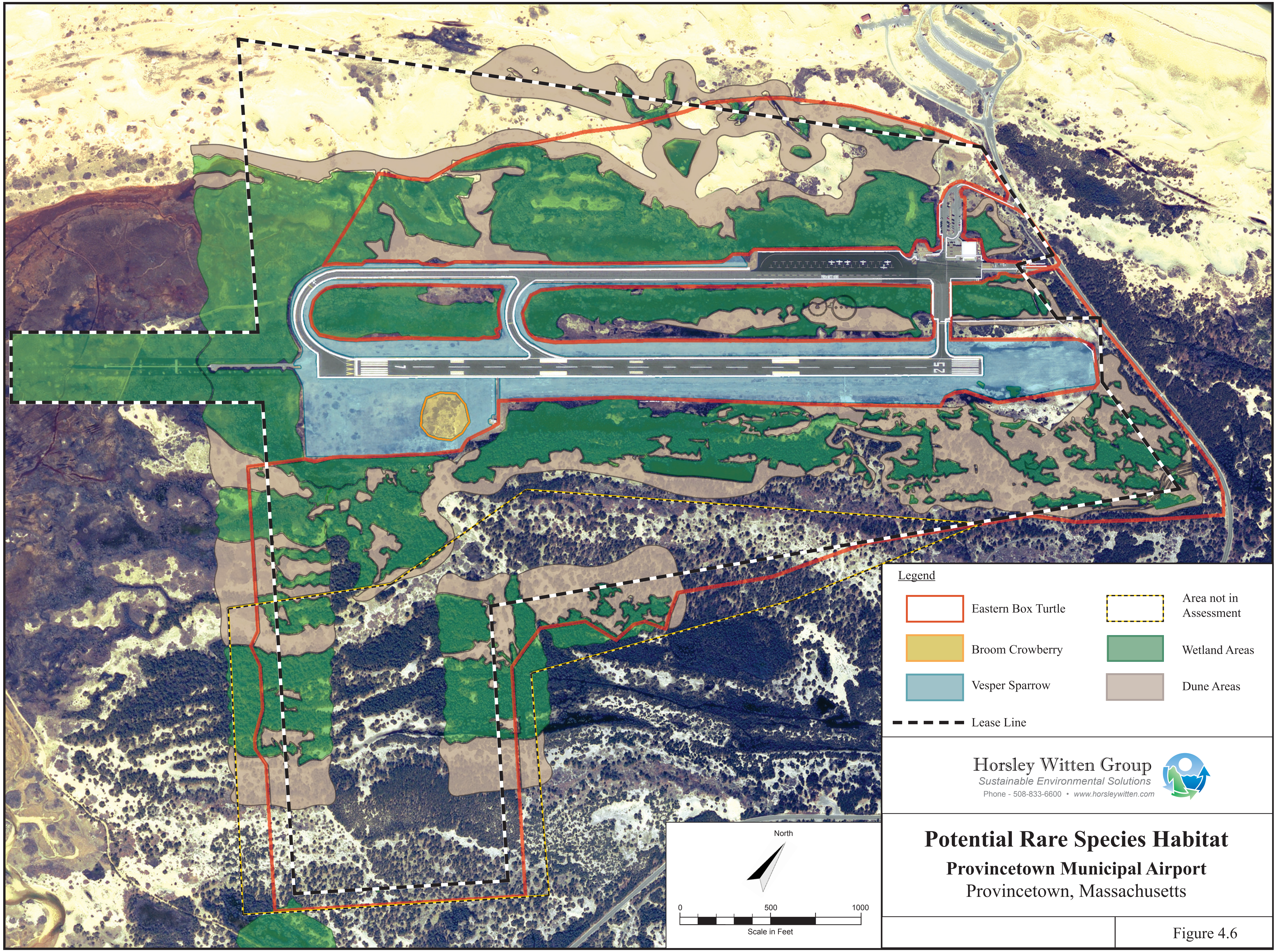
Approx. Scale: 1"=300'

0 150 300

Provincetown Municipal Airport
Capital Improvements Plan

WETLAND BUFFER ZONE IMPACT PLAN

Figure 4.5



Legend

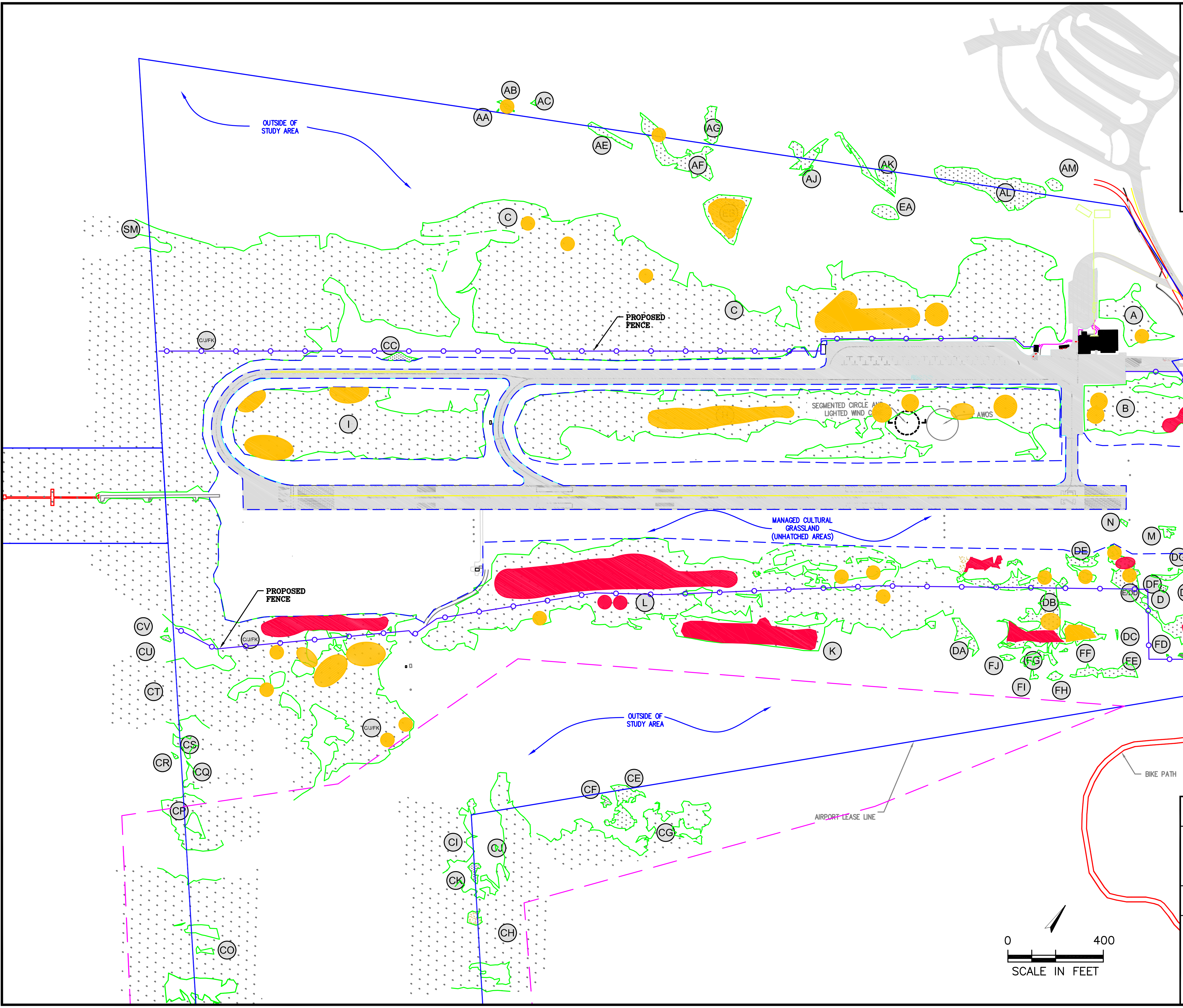
- 🟥 Eastern Box Turtle
- 🟨 Broom Crowberry
- 🟦 Vesper Sparrow
- - - - Lease Line
- ▭ Area not in Assessment
- 🟩 Wetland Areas
- ▨ Dune Areas

Horsley Witten Group
Sustainable Environmental Solutions
Phone - 508-833-6600 • *www.horsleywitten.com*

Potential Rare Species Habitat

Provincetown Municipal Airport
Provincetown, Massachusetts

Figure 4.6



Notes and Legend:

Legend

🔴	Eastern Spadefoot Toad (Breeding) Prime	▭	Area not in Assessment
🟠	Eastern Spadefoot Toad (Breeding) Potential less than 1000 S.F. (less than 10m X 10m)	🟩	Wetland Areas
⬮	Eastern Spadefoot Toad (Breeding) Potential more than 1000 S.F. more than (10m X 10m)	—	Lease Line
		—○—	Proposed Fence

Title:

FIGURE 4.7

Project:

PROVINCETOWN MUNICIPAL AIRPORT
CAPITAL IMPROVEMENTS PLAN
PROVINCETOWN, MASSACHUSETTS

Sheet:	Date:	Design By:	Drawn By:	Checked By:
1	05/05/09	AMB/ACS	DWM/ERK	JL

Prepared For:
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Race Point Road, P.O. Box 657
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Design By:
Horsley Witten Group
Environmental Services
90 Route 6A
Sandwich, MA 02563
508-833-6600 voice
508-833-3150 fax

last modified: 02/03/10 printed: 02/03/10 by bk H:\Projects\2004\4027 E&K-PTown Airport\Drawings-4027\dwg\4027 SPADEFOOT(with xrefs).dwg

SECTION 5.0 ENVIRONMENTAL CONSEQUENCES

Alternatives to the various CIP projects were presented in Section 3. This section evaluates their potential to result in environmental impacts. A list of all environmental impact categories considered in this document and either evaluated or dismissed from further analysis is discussed in Section 1.0 and outlined in Table 1-1. NEPA requires consideration of context, intensity, duration of impacts, indirect (secondary) impacts, cumulative impacts, and measures to mitigate for impacts. The definitions used for these terms in this document are provided below. Additionally, NPS policy requires that "impairment of park resources" be evaluated in all environmental documents.

Consequences, including direct and indirect impacts, were assessed by impact topic for the No Action, Preferred Alternative, and other alternatives for each CIP project element.

This section describes and compares the impacts of the Preferred Alternative (Proposed Action), other alternatives, and the No Action Alternative for each of the CIP project elements. Impact categories include: Transportation, Wetlands and Buffer Zones, Floodplain, Coastal Dunes, Cultural Grasslands, Rare Species Habitat, Drainage/Stormwater Management, Visual, Section 4(f) Properties, Impairment of Park Resources, and Cumulative Impacts.

Two impact categories are discussed in aggregate terms rather than by individual project element. These categories include Impairment to Park Resources (Section 5.14) and Cumulative Impacts (Section 5.15). This approach has been suggested by NPS because of the similarity of the projects and associated impacts. These topics are addressed in the overall context of the combined CIP projects, rather than as each CIP project individually. As with the general discussion of the environmental consequences of each alternative for each CIP project, the impacts are assessed by intensity as outlined in Table 5-1 as a means of assessing cumulative impacts and the potential for impairment to the Park's resources. Table 5-1 provides a framework for establishing whether the CIP project impacts would be negligible, minor, moderate, or major. Table 5-3 provided impacts of the preferred alternative for each project element in terms of wetland types. Table 5-5 provides a summary of impacts for each impact category for the alternatives evaluated. Impacts to Section 4(f) resources are discussed in a separate 4(f) Evaluation provided in Section 9.

5.1 Introduction and Methodology

5.1.1 Definitions

The following definitions for context, intensity, duration of impacts, indirect impacts, cumulative effects, and mitigation measures were used to characterize and evaluate the impacts associated with project alternatives for the CIP projects. Terms not defined have the standard NEPA definitions.

Context: Context is the setting within which an impact is analyzed. In this FEIR/EA, the context for all areas affected by the proposed actions is within the Airport lease area and the Province Lands region of the Park, although impacts to public use, access, and safety would extend regionally outside the limits of the Park, as they would affect the general public.

Intensity: Intensity refers to severity: negligible, minor, moderate or major. For this FEIR/EA, “negligible” is a barely perceptible and not measurable impact confined to a small area. “Minor” is measurable, localized, and would not require mitigation. “Moderate” is a clearly detectable, measurable impact that could be minimized with mitigation. “Major” is a significant impact that could not be offset by mitigation. The intensity of the project impacts is further broken down by impact topic, as outlined in Table 5.1 for discussion purposes when addressing cumulative impacts and impairment to park resources and values. This assessment methodology is developed from guidance within NPS’s Director’s Order-12 (DO-12; 1982) and the DO-Handbook and is adopted from similar projects undertaken by NPS in the vicinity of the Airport.

Duration: Duration would be either short-term or long-term. For this FEIR/EA, short-term refers to the construction period, with impacts that would last less than one year. Long-term impacts are impacts that last longer than one year.

Direct and Indirect Impacts: For the purposes of assessing the potential impacts associated with the safety/security fence, impacts to natural resource areas (freshwater wetlands and coastal dunes) have been identified as falling into one of two general categories: direct or indirect. These categories are based upon discussions with MA DEP and other regulatory agencies specific to characterizing impacts associated with the installation and maintenance of the safety/security fence.

The term Direct Impact is used in this document to identify alterations which would involve permanent fill (e.g., from fence posts), and vegetation management that would significantly alter the plant community (and the functions and values that it currently provides) within the clear areas along the fence. Vegetation management where the wetland plant community would be appreciably altered from an existing forested community (PFO) or a dense shrub community (PSS) to one that is permanently maintained as a low-growing plant community has been included as a direct impact. Other than the fence, Direct Impacts are impacts resulting from construction of the project as stated.

Indirect impacts, while modifying the vegetation communities, would not significantly alter the wetlands or dunes and would not impair the ability of these resource areas to continue to provide the same or similar functions and values as those provided by these areas prior to disturbance. An example of indirect impacts may be reducing the height of shrubby vegetation, but still maintaining a shrub swamp community. Indirect Impacts associated with the removal of vegetation have been further broken down by the estimated degree of cutting (i.e., removal of select branches vs. complete removal of canopy or shrub cover), and mitigation has been provided accordingly (see Section 7).

Table 5-1 Impact Intensity Definitions for CIP Projects at PVC

RESOURCE	INTENSITY DEFINITIONS
Natural Resources (wetlands, buffers, floodplains, coastal dunes, wildlife habitat, and grasslands)	**Negligible**: The impact on biological communities, natural processes, species, soils, or wetlands functions and values would be either non-detectable or if detected, would have effects that would be considered slight and localized. **Minor**: The impact is detectable and could affect the abundance or distribution of individuals in a localized area, but would not affect the viability of the local population or overall community size, structure, or composition. Changes to the natural processes, soil characteristics, or wetlands functions and values would be measurable, although the changes would be limited and affect only a localized area. Mitigation would not be required. **Moderate**: The impact is clearly detectable and could have appreciable effects on the resource. This would include impacts that affect the abundance or distribution of local populations but would not affect the viability of the regional population. Changes to community size, structure, composition, ecological processes, wetland functions and values, or soil characteristics could be substantial and occur over a larger area. Mitigation measures would offset adverse effects upon successful implementation. **Major**: The impact is severely adverse or exceptionally beneficial. Impacts would have a substantial, highly noticeable, or widespread influence, affecting the abundance or distribution of a local or regional population to the extent that the population would not be likely to recover (adverse) or would return to a sustainable level (beneficial). Community size, structure, composition, ecological processes, wetlands functions and values, or soil characteristics would be highly altered and landscape level changes would be expected.
State-Listed Rare Species and their Priority Habitat	**Negligible**: The action could result in a change to a population or individuals of a species or designated critical habitat, but the change would be so small that it would not be of any measurable or perceptible consequence and would be well within natural variability. No "Take" would occur and no permit would be required from the Massachusetts Natural Heritage and Endangered Species Program (NHESP). **Minor**: The action could result in a change to a population or individuals of a species or designated critical habitat. The change would be measurable, but small and localized and of little consequence. Mitigation measures, if needed to offset the adverse effects, would be simple and successful, and would not require a permit from NHESP. **Moderate**: Impacts on state-listed rare species, their habitats, or the natural processes sustaining them would be detectable and occur over a large area. Mitigation measures would offset adverse effects. **Major**: The action would result in noticeable effects to the viability of a population or individuals of a species, or its critical supporting habitat. Impacts on a state-listed species, critical habitat, or the natural processes sustaining them would be detectable, both in and out of the natural resource area. Loss of habitat might affect the viability of at least some state-listed rare species. Extensive mitigation measures would be needed to offset any adverse effects and their success would not be guaranteed.
Public Use and Access and Safety (transportation, Section 4(f) properties and visual impacts)	**Negligible**: Visitors would not be affected or there would be no noticeable change in visitor experience or safety. **Minor**: Changes in visitor experience or safety would be detectable, although the changes would be slight. The changes would affect a relatively small number of visitors, be very localized in area, or have barely perceptible consequences to the majority of visitors. **Moderate**: Changes in visitor experience or safety would be readily apparent and would affect a relatively large number of visitors. Mitigation measures would offset adverse effects upon successful implementation. **Major**: Changes in visitor experience or safety would be severely adverse or exceptionally beneficial, highly noticeable, and would affect relatively large numbers of visitors.

Areas of minimal, if any, vegetation cutting and maintenance would not be considered an impact. For example, when the fence alignment would traverse existing low-growing plant communities, this area would not be included as an impact. In addition, vegetation management practices that would necessitate the cutting of Phragmites within the wetland along the fence alignment would not be considered an adverse impact. Phragmites is currently cut by the Airport in the ILS area and the plant is also cut by other agencies for mosquito control or drainage.

Proposed mitigation measures, as discussed in Section 7, include both on-site restoration of wetlands and habitat as well as on-site wetland enhancement, standard construction procedure controls and implementation of BMPs intended to mitigate for unavoidable direct and indirect adverse impacts to natural resources within the Park. Mitigation also includes past mitigation efforts provided through the Hatches Harbor Saltmarsh Restoration Project ("Hatches Harbor Project") in accordance with the April 28, 1997 Memorandum of Understanding between NPS and the Town of Provincetown and as reiterated in the November 5, 2010 letter from NPS to FAA (See Appendices). The Hatches Harbor Project, implemented in the early 2000s, included a substantial restoration effort of salt marsh and freshwater habitat.

5.1.2 Methodology

Wetland Buffer Zone

Project impacts to Buffer Zone (100 foot offset from delineated edge of BVW and IVW, pursuant to the Provincetown Wetland Bylaws) have been considered but are not quantified for separate projects. Impacts have been classified as Level 1 and Level 2 impacts. A Level 1 impact would convert, or maintain, existing Buffer Zone as an area managed for Airport use. A Level 2 impact would convert, or maintain, existing Buffer Zone to a naturally vegetated state (wetland or coastal dune). As discussed in Section 4, existing Buffer Zone areas at the Airport consist of pavement, managed grassland, coastal dune, or other freshwater wetland resources. Because of the location of the isolated wetlands and their proximity to one another, the Buffer Zones overlap. Except for the runway and portions of other facilities, much of the Airport operation area falls within the Buffer Zone. The Buffer Zone is shown on Figure 4.5 which includes a table of Buffer Zone impacts.

Cultural Grassland

Impacts to Cultural Grassland are identified as impacts to the human-created grassland that occurs at the Airport adjacent to the taxiway system and runway. These areas are mowed frequently to maintain aviation safety areas and navigational surfaces. The term Cultural Grassland is applied by the Massachusetts Division of Fisheries & Wildlife to describe a "human-created and maintained open community dominated by grasses, normally maintained by mowing." This community often occurs at airfields and is "a grassland community that generally occurs on sand or other droughty, low-nutrient soils." In general, the mowed grass communities observed at the Airport that meet these criteria are dominated by various grass and herbaceous species that are mowed an average of three to four times annually. The significance of identifying Cultural Grasslands in the Natural Resources Inventories is that this type of habitat may provide nesting habitat for the Vesper Sparrow and potential habitat for Broom Crowberry.

Visual

Visual impacts are based on the qualitative degree of visual resource change and viewer response. Visual resource change is the degree of change in a visual resource caused by the project separate from viewer response. Viewer response is a measure of the change in viewer exposure, sensitivity, cultural significance, and local values. A visual assessment of existing conditions is presented in Section 4. The methodology is adapted from the Federal Highway Administration's Visual Impact Assessment for Highway Projects (FHWA-HI-88-054).

5.1.3 Field Investigations

Since the circulation of the DEIR/EA (May 31, 2007), additional wetland delineation has been completed and was approved by the Provincetown Conservation Commission. This approval has been extended to January 2013. Impacts to wetland resources are based on wetland identification and delineation reports that are included in Appendix 1. Direct impacts to BVW, IVW, and coastal dune are discussed in Sections 3, 5, and 7.

Additional field assessments of Eastern Spadefoot Toad prime and potential breeding habitat have been completed, pursuant to guidance from NHESP and NPS. The identification of impacts to rare species habitat is based on the natural resources inventory and rare species habitat assessment reports that are included in Appendix 2.

5.1.4 References

The impact analyses and conclusions are based on existing literature, FAA design standards, specific site studies, professional judgments, and public and agency input. The specific site studies are provided in the Appendices. A detailed discussion of FAA and TSA standards and regulations is provided in Section 2. Public and Agency comment letters are provided in Sections 10 and 13. CCNS publications can be found at the NPS website. Several agency coordination meetings were held with NHESP, NPS, CCC, DEP, Provincetown Conservation Commission, and ACOE staff to discuss alternatives and potential impacts to Hatches Harbor, rare species, wetlands, wildlife habitat continuity, traffic, and parking. Minutes of these meetings are provided in Section 10.1.

5.2 Westerly Taxiway System

The Westerly Taxiway System consists of:

- West End Connector Taxiway
- Westerly End of Parallel Taxiway
- Mid Connector Taxiway

5.2.1 No Action

5.2.1.1 Transportation and Traffic

The No Action Alternative would have moderate adverse impacts on Transportation and Traffic in terms of airport operational safety. The West End TW would continue to be within the runway approach and the TW would not have the right angle connection at the end of the runway. The parallel TW would not be reconstructed to remove pavement.

5.2.1.2 Wetlands and Wetland Buffer Zones

Under the No Action Alternative there would be no impacts to wetlands because there would be no construction and wetlands would not be altered.

5.2.1.3 Floodplain

Under the No Action Alternative there would be no impacts to floodplain because there would be no construction within flood zone elevations (i.e., within wetland, low-lying coastal dune or grassland) and the floodplain would not be altered.

5.2.1.4 Coastal Dunes

Under the No Action Alternative there would be no impacts to Coastal Dunes because there would be no construction and coastal dunes would not be altered for the project.

5.2.1.5 Cultural Grasslands

Under the No Action Alternative there would be no impacts to Cultural Grasslands because there would be no construction within cultural grasslands.

5.2.1.6 Rare Species Habitat

Under the No Action Alternative there would be no impacts to Rare Species Habitat because there would be no construction within resources used by listed species.

5.2.1.7 Drainage / Stormwater Management

The drainage system would not change under the No Action Alternative. There are no impacts to the drainage system associated with the No Action alternative.

5.2.1.8 Visual Environment

There would be no change to the visual environment under the No Action Alternative. The No Action Alternative will not impact visual resources.

5.2.2 Westerly TW System Improvements (Preferred Alternative)

The Westerly Taxiway System Improvements consist of:

A. Relocate the West End TW out of the RW Approach with a standard right angle
B. Re-align the Westerly End of the Parallel Taxiway and construct a run-up pad
C. Re-align the Mid Connector TW with a standard right angle

5.2.2.1 Transportation and Traffic

Construction of the Westerly TW system would have moderate beneficial impacts on Transportation and Traffic. The project would provide safety and operational improvements but would not result in an increase in capacity of the Airport. Additional flights and additional passenger enplanements would not occur as a result of the project. Therefore, there would be minor short-term adverse impacts and moderate beneficial long-term impacts on Transportation and Traffic.

5.2.2.2 Wetlands and Wetland Buffer Zones

The Westerly TW System Improvements would result in a total of 28,655 SF of unavoidable impacts to Wetland I. The relocation of the West End TW will result in the unavoidable alteration of approximately 25,665 SF of Wetland I. The realignment of the westerly end of the Parallel TW will result in the unavoidable alteration of approximately 2,880 SF of Wetland I. The realignment of the mid connector TW will result in the unavoidable alteration of approximately 110 SF of Wetland I. These areas are shown on Figure 3.1 in Section 3.

As for most of the CIP project elements proposed adjacent to wetland areas, unless otherwise noted, work within the buffer zone will typically be limited to the installation of erosion control measures at the limit of work prior to construction to prevent unintended impacts from sedimentation or debris to adjacent wetlands during construction activities. Erosion control barriers (i.e., silt fencing or straw bales) will be installed immediately down gradient of the proposed activities and will serve as the limit of work. Erosion control measures will remain in place and be maintained in good condition during and immediately following all construction activities. Upon completion of these activities and once all soils have been stabilized with native vegetation, the erosion control barriers will be removed and disposed of properly.

Relocation of the West End TW will provide locations for on-site wetland restoration of approximately 64,000 SF as shown on Figures 7.1 and 7.2 in the end of Section 7. This area will also serve as a mitigation area for the other CIP projects that have direct impacts to IVW. Wetland enhancement is also proposed to mitigate for direct and indirect adverse impacts to wetland resources to satisfy federal wetland regulatory requirements. The Hatches Harbor Project will provide the necessary wetland mitigation for impacts to wetland resource areas for the CCNS. Additional information about the proposed mitigation is provided in Section 7. A Statement of Findings is provided in Section 9 to comply with NPS NEPA requirements.

In conclusion, the Preferred Alternative will have a moderate adverse direct short-term impact on wetlands until the construction of the restoration and implementation of wetland enhancement are ~~is~~ successfully completed. Mitigation measures presented will compensate for these impacts such that there will be a net long-term minor to moderate beneficial impact with no net loss of wetland resources.

5.2.2.3 Floodplain

While at least a portion of the project will occur at elevations below the 100-year floodplain (10 to 11 feet above mean sea level), the project is not anticipated to have any adverse effect on the flood storage capacity relative to the ability of the low-lying areas to temporarily retain and release coastal waters during and following a flooding event at the Airport or within the surrounding CCNS lands.

Because of the flood storage capacity of the other isolated wetlands on-site there will be negligible adverse short-term impacts with construction of the Preferred Alternative. Flood storage capacity will be compensated by the proposed wetland restoration upon successful completion. The proposed project will not displace flood waters nor will it minimize the area available for flood storage. In addition, mitigation measures undertaken during the Hatches Harbor Project have resulted in greater flushing of tidal waters within the harbor and have in part allowed for alleviated attenuation of flood waters following major storm events. A Statement of Findings is provided in Section 9 to comply with NPS NEPA requirements. The Preferred Alternative will have no long-term impacts on floodplain. Proposed mitigation will compensate for the impacts such that there may be a minor beneficial increase in flood detention and storage during large storm events upon successful implementation of wetland restoration.

5.2.2.4 Coastal Dunes

Realigning the westerly end of the Parallel TW will result in approximately 6,460 SF of coastal dune alteration for construction of the run-up pad, as shown on Figure 3.1. Of this, approximately 2,220 SF will be converted from coastal dune to cultural grassland and the remaining area will be converted to pavement.

Approximately 27,500 SF of dune creation is proposed adjacent to the proposed freshwater wetland restoration area within Restoration Areas A and C as mitigation. Therefore, the Preferred Alternative will have a moderate adverse short-term impact and minor adverse long-term impact on coastal dunes because proposed mitigation for the overall CIP projects results in a minor loss of coastal dune..

5.2.2.5 Cultural Grasslands

Construction of the Preferred Alternative will impact existing Cultural Grasslands associated with the existing TW safety areas. The Preferred Alternative will also have adjacent safety areas consisting of Cultural Grasslands at varying widths.

Cultural Grasslands will be re-established along the newly constructed taxiway entrances and within the abandoned paved areas adjacent to the Runway 7 end as shown on Figures 7.1 and 7.2. Overall there will be no net loss of Cultural Grassland resource at the Airport. Therefore, the Preferred Alternative will have negligible adverse short-term and no long-term impacts on Cultural Grassland.

5.2.2.6 Rare Species Habitat

Construction of the Preferred Alternative would impact wetlands, coastal dune, and Cultural Grassland which are potential habitats for Eastern Box Turtle, Vesper Sparrow, and Eastern Spadefoot Toad.

Minor short-term adverse impacts to Eastern Box Turtle habitat are expected, as this species is a generalist (as discussed in Section 4) and utilizes a variety of habitat types found within the Airport. There would be negligible adverse long-term impacts. To avoid direct impacts to this species, pre-construction “turtle sweeps” within the limit of work will be conducted as part of the Turtle Protection Plan discussed in Section 7.

Wetland resource area restoration is proposed in Restoration Areas A and B in which isolated freshwater wetlands will re-create potential breeding habitat for the Eastern Spadefoot Toad. Construction activities within the wetlands will be scheduled in accordance with NHESP agency avoidance dates to avoid direct impacts to Eastern Spadefoot Toad and further mitigate any adverse construction effects. Proposed wetland enhancement measures will restore the native plant communities within these habitats over time.

Although Vesper Sparrows have not been observed at the Airport in recent years, this species has been documented at the Airport by NPS, and the grassland provides potential habitat for the Vesper Sparrow. Construction activities within Cultural Grasslands will be scheduled for the fall (i.e., after the active breeding and nesting season for this species) which will avoid direct impacts to Vesper Sparrow.

In summary, the Airport will mitigate for impacts to rare species habitat through a combination of habitat restoration, habitat enhancement, and other efforts that are discussed in detail in Section 7. Vegetation management will help to maintain natural habitat areas, such as Cultural Grassland. Strategic timing of construction activities will also help to avoid direct and indirect impacts to rare species. To the extent practicable, construction will be timed to avoid peak activity for these species. As such, adverse impacts to rare species will be minor for the short-term and negligible for the long-term because of the proposed mitigation measures.

5.2.2.7 Drainage / Stormwater Management

The project involves the relocation of pavement, removal of pavement, and construction of new paved surfaces. Following construction, stormwater runoff will continue to be managed on the taxiways with infiltration through sheet flow into the grass safety areas. Runoff from the Airport's runways and taxiways has negligible contaminants because salt is not applied and engine repair does not take place.

In addition, the CIP projects will result in an overall net decrease in pavement at the Airport as shown in Table 5.2 and on Figure 5.2 at the end of this section. Erosion control measures will be in place during construction and there will be minor beneficial short-term and long-term impacts to drainage and stormwater management.

5.2.2.8 Visual Environment

The project would relocate existing taxiways and would not be a new element or an expansion of an existing element in the visual environment. Therefore, there would be no impact to the Visual Environment.

5.3 East End TW

5.3.1 No Action

5.3.1.1 Transportation and Traffic

The No Action Alternative would have moderate adverse impacts on Transportation and Traffic in terms of Airport operations both in the short- and long-term. The East End TW would not connect with the end of the runway and planes would be required to back-taxi on the active runway.

5.3.1.2 Wetlands and Wetland Buffer Zones

Under the No Action Alternative there would be no impacts to wetlands because there would be no construction and wetlands would not be altered.

5.3.1.3 Floodplain

Under the No Action Alternative there would be no impacts to floodplain because there would be no construction within flood zone elevations (i.e., within wetland, low lying coastal dune or grassland).

5.3.1.4 Coastal Dunes

Under the No Action Alternative there would be no impacts to coastal dunes because there would be no construction.

5.3.1.5 Cultural Grasslands

Under the No Action Alternative there would be no impacts to cultural grasslands because there would be no construction.

5.3.1.6 Rare Species Habitat

Under the No Action Alternative there would be no impacts to rare species habitat because there would be no construction.

5.3.1.7 Drainage / Stormwater Management

The drainage system would not change under the No Action Alternative because there would be no construction.

5.3.1.8 Visual Environment

As there would be no construction under the No Action Alternative, there would be no change to the visual environment.

5.3.2 Relocate East End TW with Standard Right Angle (Preferred Alternative)

5.3.2.1 Transportation and Traffic

Construction of the East End TW relocation would have minor adverse short-term impacts on transportation and traffic. The project would provide safety and operational improvements but would not result in an increase in capacity of the Airport. Additional flights and additional passenger enplanements would not occur as a result of the project. Therefore, there would be minor adverse short-term impacts and moderate beneficial long-term impacts on Transportation and Traffic.

5.3.2.2 Wetlands and Wetland Buffer Zones

Relocating the East End TW to align with the Runway 25 end would result in direct wetland impacts of 28,300 SF within an isolated shrub swamp, Wetland B, as shown on Figure 3.2.

Relocation of the East End TW will allow for on-site wetland restoration of up to 14,000 SF within the footprint of the existing paved area (Restoration Area C), as shown on Figure 7.2 in Section 7. Additional isolated wetland restoration will be provided in Restoration Area A (Figure 7.1 and 7.3), ~~to~~ providing for an overall on-site restoration at an approximately 1:1 ratio. However, since the Corps (as well as other regulatory authorities) is seeking greater than 1:1 mitigation, the Airport proposes additional mitigation measures that include on-site wetland enhancement to be provided at a 7.4:1 ratio. Off-site mitigation previously implemented through the Hatches Harbor Project is also proposed to mitigate for direct and indirect adverse impacts to wetland resources within the Park, such that the overall mitigation ratio is greater than 8:1. Mitigation ratios will be refined during the permitting process. Additional information about the proposed wetland restoration and mitigation plan is provided in Section 7. The Preferred Alternative will have a moderate adverse short-term impact on wetlands. Proposed on-site wetland restoration and enhancement, combined with previous mitigation completed as part of the Hatches Harbor Project are intended to mitigate for all on-site impacts such that there will be a net long-term minor to moderate beneficial impact to wetland resources upon successful wetland mitigation.

5.3.2.3 Floodplain

While at least a portion of the project will occur at elevations below the 100-year floodplain elevations (10 to 11 feet above mean sea level), the project is not anticipated to have any adverse effect on the flood storage capacity relative to the ability of the low-lying areas to temporarily retain and release coastal waters during and following a flooding event at the Airport or within the surrounding CCNS lands.

Flood storage capacity of Isolated Land Subject to Flooding (ILSF) on-site will not be impaired with construction of the Preferred Alternative. Any loss of flood storage capacity will be compensated upon successful implementation of on-site wetland restoration. The proposed project~~s~~ will not displace flood waters nor will it reduce the area available for flood storage because of the proposed wetland mitigation. A Statement of Findings is provided in Section 9 to comply with NPS NEPA regulations. The Preferred Alternative will have a negligible adverse short-term impact on floodplain during construction. Proposed mitigation will compensate for the impacts so that there will be no long-term impact.

5.3.2.4 Coastal Dunes

Relocating the East End Taxiway will result in approximately 5,000 SF of coastal dune alteration, as shown on Figure 3.2. A total of 27,500 SF (See Figures 7.1 and 7.2 in Section 7) of dune creation is proposed adjacent to the proposed freshwater wetland restoration areas (Restoration Areas A and C) as mitigation for this project and other CIP projects with impacts to coastal dunes. Management of invasive species within other existing coastal dune habitat is also proposed (see Section 7.0). The Preferred Alternative will have a moderate adverse short-term direct impact and minor adverse long-term impact on coastal dunes because of proposed mitigation.

5.3.2.5 Cultural Grasslands

Relocating the East End Taxiway will alter some of the existing Cultural Grassland within the TW safety area. The relocated East End TW will be constructed with similar safety areas which will be maintained as Cultural Grassland (see Figures 7.2 and 7.4). Overall, there will be no net loss of Cultural Grassland at the Airport, so the Preferred Alternative will have minor adverse short-term and negligible adverse long-term impacts on Cultural Grassland.

5.3.2.6 Rare Species Habitat

Relocating the East End TW would involve a shift of the existing TW entrance to the southeast. This may have potential impacts to habitat for the Eastern Box Turtle, to breeding and non-breeding habitat for the Eastern Spadefoot Toad, and to a lesser degree, to Vesper Sparrow nesting habitat. Abandonment of the existing paved areas provides an opportunity for habitat creation and/or restoration as discussed in Section 7.

Impacts to Vesper Sparrow nesting habitat are not anticipated given that the grassland in this area is in close proximity to active Airport operational areas (i.e., existing human activity in these areas may deter nesting in these managed grasslands). Construction activities within Cultural Grasslands will be scheduled for the fall to avoid impacts to Vesper Sparrow.

Habitat surveys for the Eastern Spadefoot Toad indicate that while portions of Wetland B provide suitable breeding habitat for this species, the proposed taxiway entrance would be located in areas uncharacteristic of prime breeding habitat for the Eastern Spadefoot Toad. Construction activities within the wetlands will be scheduled consistent with specific NHESP agency avoidance dates which will avoid direct adverse impacts to Eastern Spadefoot Toad and their potential breeding habitat. Proposed on-site wetland restoration and enhancement will mitigate for the shift in Eastern Spadefoot Toad breeding habitat and should improve the habitat characteristics through invasive species management.

In order to avoid direct impacts to the Eastern Box Turtle, pre-construction “turtle sweeps” within the limit of work will be conducted as part of the Turtle Protection Plan discussed in Section 7. Therefore, direct adverse impacts to rare species habitat will be minor for the short-term and negligible for the long-term because of the proposed mitigation measures.

5.3.2.7 Drainage / Stormwater Management

The project involves the relocation of pavement, removal of pavement, and construction of new paved surfaces. Following construction, stormwater runoff will continue to be managed on the taxiways with infiltration through sheet flow into the grass safety areas. Runoff from the Airport’s runways and taxiways has negligible contaminants because salt is not applied and engine repair does not take place. Potential contaminants include material from tire wear, but a *de minimis* amount that could not be measured.

Overall, the CIP projects will result in a net decrease in pavement at the Airport as shown in Table 5.2 and Figure 5.2 at the end of this section. Therefore, there will be minor short-term and long-term beneficial impacts to drainage and stormwater management.

5.3.2.8 Visual Environment

The project would relocate an existing taxiway and would not be a new element in the visual environment. As a result there would be no impact to the Visual Environment.

5.4 Terminal Apron

5.4.1 No Action

The Certificate issued on the NPC/DEIR/EA by the Secretary of Energy and Environmental Affairs allowed the Airport to proceed with the reconstruction of the Terminal Apron within the same footprint prior to the completion of the FEIR. In accordance with MEPA and NHESP, the Terminal Apron project has been included in this FEIR/EA to avoid segmentation, although this project is not required to be included in this FEIR/EA under NEPA requirements. The project was allowed to go forward by NHESP and MEPA because it was deemed to have no environmental impacts.

5.4.1.1 Transportation and Traffic

Under the No Action Alternative there would be minor adverse short-term and moderate adverse long-term impacts to Transportation and Traffic because pavement that is in poor condition would not be replaced. The project has been completed.

5.4.1.2 Wetlands and Wetland Buffer Zones

Under the No Action Alternative there would be no impacts to wetlands because there would be no construction adjacent to wetlands and no potential for indirect impacts to adjacent wetlands. The project has been completed and wetland/buffer resources were not impacted under this footprint pavement project.

5.4.1.3 Floodplain

Under the No Action Alternative there would be no impacts because the construction would be within the footprint of the existing terminal apron. The project has been completed and resources were not impacted.

5.4.1.4 Coastal Dunes

Under the No Action Alternative there would be no impacts to coastal dunes because there would be no construction in or adjacent to coastal dune resources. The project has been completed and as a result of this, no resources were impacted.

5.4.1.5 Cultural Grasslands

Under the No Action Alternative there would be no impacts because there would be no construction in or adjacent to Cultural Grassland. The project has been completed and resources were not impacted under this footprint pavement project.

5.4.1.6 Rare Species Habitat

Under the No Action Alternative there would be no impacts because construction would not take place in or adjacent to habitat used by listed species. The project has been completed and rare species habitat was not impacted under this footprint pavement project.

5.4.1.7 Drainage / Stormwater Management

Under the No Action Alternative there would be no impacts to the drainage system because the pavement would not be reconstructed. The project has been completed and the existing drainage was re-established.

5.4.1.8 Visual Environment

Under the No Action Alternative there would be no impacts to the visual environment because there would not be any construction. The project has been completed and there was no change in the visual characteristic under this footprint pavement project.

5.4.2 Reconstruct within the Existing Footprint (Preferred Alternative)

The Certificate issued on the NPC/DEIR by the Secretary of Energy and Environmental Affairs allowed the Airport to proceed with the reconstruction of the Terminal Apron within the same footprint prior to the completion of the FEIR.

Coordination was carried out with staff at NHESP regarding requirements under the Massachusetts Endangered Species Act (MESA). The project qualifies as an exempt project pursuant to 321 CMR 10.14(8) “the maintenance, repair or replacement, but not widening of existing paved roads, …and paved parking areas,...” NHESP reviewed and commented on this project as part of the Notice of Intent (NOI) process under the Wetland Protection Act. The project will, however, be included in the MESA application for the Airport’s CIP projects to avoid segmentation.

Coordination was also carried out with CCNS, who signed the NOI as the landowner. The project was issued an Order of Conditions (DEP File No. 058-0440) and construction was completed in the fall of 2008. Erosion controls were implemented and the project did not impact wetland, coastal dune, or rare species habitat resources.

5.4.2.1 Transportation and Traffic

Reconstruction of the Terminal Apron would have minor short-term adverse and moderate long-term beneficial impacts on Transportation and Traffic. The project would reconstruct existing pavement but would not result in an increase in capacity of the Airport. Additional flights and additional passenger enplanements would not occur as a result of the project. Therefore, there would be no increase in vehicular traffic as a result of the project. There would be minor adverse impacts during construction and moderate long-term beneficial impacts on Transportation. This project has been completed.

5.4.2.2 Wetlands and Wetland Buffer Zones

The Preferred Alternative will remain within the existing pavement footprint and does not involve any work within wetlands. Erosion control was installed during construction of the project and the project is now completed. There were no impacts on wetlands and wetland buffer zones.

5.4.2.3 Floodplain

The Preferred Alternative will not increase the footprint of the existing pavement within the flood zone and will not affect the floodplain. Therefore, the Preferred Alternative had negligible short-term adverse impacts and will have no long-term impacts on floodplain. This project has been completed.

5.4.2.4 Coastal Dunes

The Preferred Alternative will remain within the existing pavement footprint and does not involve any work within coastal dunes. Erosion control was installed during construction of the project and this project is now completed. Accordingly, there were a no impacts on Coastal Dunes.

5.4.2.5 Cultural Grasslands

The Preferred Alternative will remain within the existing pavement footprint and does not involve any work within Cultural Grassland. Erosion control was installed prior to project construction, and this project has been completed. Consequently, there were no impacts on Cultural Grasslands.

5.4.2.6 Rare Species Habitat

The Preferred Alternative will remain within the existing pavement footprint and does not involve any work within habitat for rare species. Erosion control was installed prior to construction of the project and this project has been completed. As such, there were no impacts on rare species habitat.

5.4.2.7 Drainage / Stormwater Management

The project involves the reconstruction of existing pavement. The stormwater drainage system for the apron is unchanged. Therefore, there were no impacts to drainage and stormwater management. This project has been completed.

5.4.2.8 Visual Environment

The project is a modification to an existing facility and would not be a new visual element. Therefore, there have been no impacts to the Visual Environment since the project has been completed.

5.5 Easterly End of Parallel TW

5.5.1 No Action

5.5.1.1 Transportation and Traffic

The No Action Alternative would have moderate adverse impacts on Transportation and Traffic in terms of Airport operations. The parallel TW pavement, which is in poor condition, would not be reconstructed and loose pavement might damage aircraft.

5.5.1.2 Wetlands and Wetland Buffer Zones

Under the No Action Alternative there would be no impacts to wetlands because there would be no construction in or adjacent to wetlands and no potential for indirect impacts to adjacent wetlands.

5.5.1.3 Floodplain

Under the No Action Alternative there would be no impacts because there would be no construction in or adjacent to floodplain.

5.5.1.4 Coastal Dunes

Under the No Action Alternative there would be no impacts to coastal dunes because there would be no construction in or adjacent to coastal dune resources.

5.5.1.5 Cultural Grasslands

Under the No Action Alternative there would be no impacts because there would be no construction in or adjacent to Cultural Grasslands.

5.5.1.6 Rare Species Habitat

Under the No Action Alternative there would be no impacts because construction would not take place in or adjacent to habitat used by listed species.

5.5.1.7 Drainage / Stormwater Management

The drainage system would not change under the No Action Alternative. There are no impacts to the drainage system associated with the No Action alternative.

5.5.1.8 Visual Environment

There would be no change to the visual environment under the No Action Alternative. The No Action Alternative will not impact visual resources.

5.5.2 Reconstruct within the Existing Footprint (Preferred Alternative)

5.5.2.1 Transportation and Traffic

Reconstruction of the Preferred Alternative would have moderate beneficial long-term impacts on Transportation and Traffic. The project would reconstruct existing pavement but would not result in an increase in capacity of the Airport. Additional flights and additional passenger enplanements would not occur as a result of the project. Therefore, there would be no increase in vehicular traffic as a result of the project with only minor adverse short-term impacts during construction and moderate beneficial long-term impacts on Transportation and Traffic due to increased safety resulting from new pavement.

5.5.2.2 Wetlands and Wetland Buffer Zones

The Preferred Alternative will remain within the existing pavement footprint and does not involve any work within wetlands. Erosion controls such as haybales and silt fence will be installed prior to construction of the project to define the limit of work and prevent impacts to adjacent resources. As a result, there would be no impact on wetlands.

5.5.2.3 Floodplain

Since the Preferred Alternative does not involve filling within the coastal floodplain, it will not adversely affect the floodplain. Erosion controls such as haybales and silt fence will be installed prior to construction of the project to define the limit of work and prevent impacts to adjacent resources. Therefore, the Preferred Alternative will have no short-term or long-term impact on floodplain.

5.5.2.4 Coastal Dunes

The Preferred Alternative will remain within the existing pavement footprint and does not involve any work within coastal dunes. Erosion controls such as haybales and silt fence will be installed prior to construction of the project to define the limit of work and prevent impacts to adjacent resources. As such, there would be no impact on coastal dunes.

5.5.2.5 Cultural Grasslands

The Preferred Alternative will remain within the existing pavement footprint and does not involve any work within Cultural Grassland. Erosion controls such as haybales and silt fence will be installed prior to construction of the project to define the limit of work and prevent impacts to adjacent resources. Accordingly, there would be no impact on Cultural Grasslands.

5.5.2.6 Rare Species Habitat

The Preferred Alternative will remain within the existing pavement footprint and does not involve any work within habitat for rare species. Erosion controls such as haybales and silt fence and other construction phase mitigation such as time of construction and monitoring, will be implemented prior to construction of the project to define the limit of work and prevent impacts to adjacent resources and the species that use them. Therefore, there would be no impact on rare species or their habitat.

5.5.2.7 Drainage / Stormwater Management

The project involves the removal of excess pavement and reconstruction of pavement. Currently stormwater runoff from the taxiway sheet flows over the grass safety areas before infiltrating into the ground. There is no sanding or deicing of the taxiway so that the stormwater flows contain minimal total suspended solids. There would be minimal potential for oil or other contaminants in the stormwater. The removal of excess pavement will improve existing conditions. There will be no impact to drainage and stormwater management.

5.5.2.8 Visual Environment

The project would reconstruct existing pavement and would not be a new element in the visual environment. Therefore there would no short-term and long-term impacts to the Visual Environment.

5.6 TW Lighting, Lighted TW Signs, and Electric Vault

5.6.1 No Action

5.6.1.1 Transportation and Traffic

The No Action Alternative would have moderate adverse impacts on Transportation and Traffic in terms of Airport operations. The TW would continue to operate with reflectors and the electric vault would not be upgraded to meet current codes and requirements. This could adversely affect the safety conditions during bad weather operations.

5.6.1.2 Wetlands and Wetland Buffer Zones

Under the No Action Alternative there would be no impacts to wetlands because there would be no construction within or adjacent to wetlands and no potential for impacts to adjacent wetlands.

5.6.1.3 Floodplain

Under the No Action Alternative there would be no impacts upon the floodplain because there would be no construction in the floodplain and therefore no impacts to in the floodplain.

5.6.1.4 Coastal Dunes

Under the No Action Alternative there would be no impacts to coastal dunes because there would be no construction in or adjacent to coastal dune resources.

5.6.1.5 Cultural Grasslands

Under the No Action Alternative there would be no impacts to Cultural Grasslands because there would be no construction within cultural grassland.

5.6.1.6 Rare Species Habitat

Under the No Action Alternative there would be no impacts to rare species habitat because there would be no construction within resources used by listed species.

5.6.1.7 Drainage / Stormwater Management

There are no impacts to the drainage system associated with the No Action Alternative because there would be no construction.

5.6.1.8 Visual Environment

There would be no change to the visual environment under the No Action Alternative. The No Action Alternative will not impact visual resources because there would be no construction of the TW lights and signs.

5.6.2 Install TW Lighting and Lighted TW Signs, and Construct New Electric Vault (Preferred Alternative)

5.6.2.1 Transportation and Traffic

Construction of the Preferred Alternative would have a moderate beneficial impact on Transportation and Traffic. The project would provide safety and operational improvements but would not result in an increase in the capacity of the Airport. Additional flights and additional passenger enplanements would not occur as a result of the project. There would be no increase in vehicular traffic as a result of the project, only negligible adverse short-term impacts during construction, and a moderate beneficial long-term impact on Transportation and Traffic.

5.6.2.2 Wetlands and Wetland Buffer Zones

The Preferred Alternative does not involve any work within wetlands. Erosion controls and a limit of work will be installed prior to construction of the project. Therefore, there would be no impact on wetlands.

5.6.2.3 Floodplain

The Preferred Alternative will not decrease the flood storage capacity at the Airport and as a result will not affect the floodplain. The Preferred Alternative will have no impact on floodplain.

5.6.2.4 Coastal Dunes

The Preferred Alternative does not involve any work within coastal dunes. Erosion controls and a limit of work will be installed prior to construction of the project. As such, there would be no impact on coastal dunes.

5.6.2.5 Cultural Grasslands

Installing new TW edge lights, lighted TW signs, and constructing an electrical vault to upgrade the electric service will occur within Cultural Grasslands adjacent to the TW.

The installation of the electrical conduit will use a construction method referred to as cable plowing. The sandy soils at the Airport make this method feasible. The cable plow machine has a chain saw attachment on the back that is referred to as the “stinger.” The stinger trenches a space in the ground approximately 8” wide and approximately 24” deep and mechanically drops the cable in the trench once the stinger has created the space in the ground. The “plowing” and cable installation occurs simultaneously with minimal ground disturbance. The minimal land disturbance is quickly restored as illustrated in Photo 5-1 taken at Nantucket Airport.

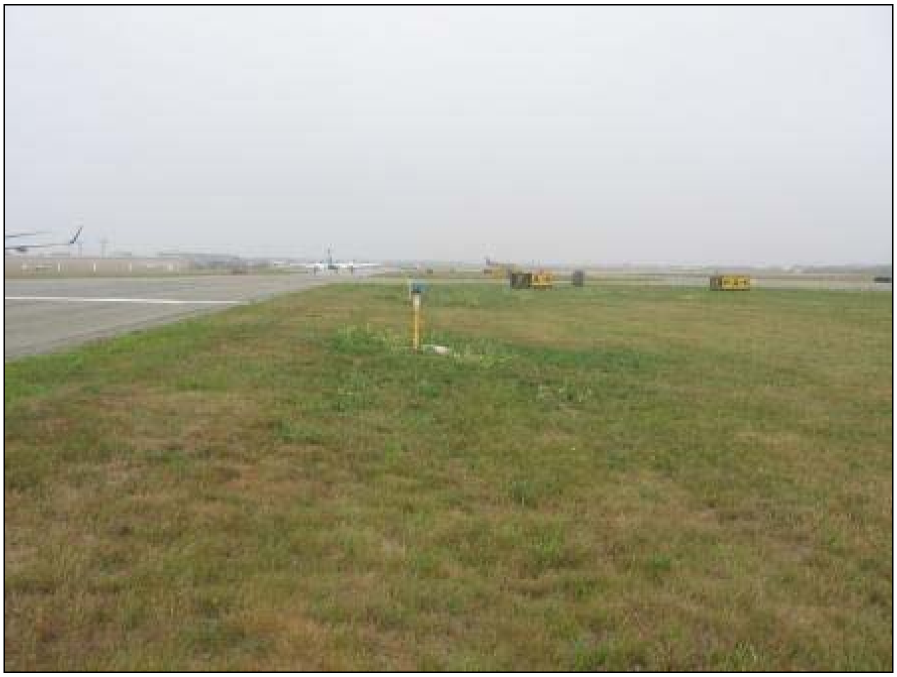


Photo **5-1** Taxiway Lights. Nine months after installation using cable plowing at Nantucket Airport.

Accordingly, the Preferred Alternative will have negligible short-term adverse impacts and no adverse long-term impacts on Cultural Grassland.

5.6.2.6 Rare Species Habitat

Installation of the edge lights is not anticipated to have any short-term or long-term adverse impacts to rare species habitat. A habitat survey was conducted for the Eastern Spadefoot Toad at the Airport, and it was determined that habitat for this species is not located along the edges of the taxiway where construction associated with the installation of the taxiway edge lights will be located. Work will occur outside of the prime breeding and nesting season for the Vesper Sparrow and will not occur in areas known to support Broom Crowberry. Procedural controls (e.g., turtle sweeps) will be implemented during construction to avoid any potential harm to Eastern Box Turtle should the work occur when this species may still be active. The lighting structures will result in a negligible loss of grasslands (i.e., the area immediately surrounding each light unit), the electrical cable will be buried, and the disturbed grasslands will be restored in kind.

The proposed location for the electrical vault is immediately adjacent to the existing Sightseeing Shack, in an area deemed not significant to Vesper Sparrow habitat due to its proximity to Airport operations and the overall isolation of this small area of Cultural Grassland. No Broom Crowberry has been documented within these areas. Therefore, there would be negligible short-term adverse short-term and no long-term impacts on rare species or their habitat as a result of this project.

5.6.2.7 Drainage / Stormwater Management

The project does not involve any changes to paved surfaces and there will be no impact to drainage and stormwater management.

5.6.2.8 Visual Environment

The project would construct an electric vault and add taxiway lights. Similar facilities are on the airfield and the project would not change the visual environment. As such, there would be no impact to the Visual Environment.

5.7 Sightseeing Shack Improvements

5.7.1 No Action

5.7.1.1 Transportation and Traffic

Under the No Action Alternative, the Shack would not be repaired after the electrical equipment was removed for the TW lighting and electric vault project. General aviation passengers and sightseeing passengers frequently sit on the porch of the Sightseeing Shack to talk airplanes with other aviation enthusiasts. Over time, the Sightseeing Shack will continue to deteriorate while communications and electrical equipment is being housed inside, causing an unsafe conditions for GA pilots and passengers. There would be a minor short-term adverse impact and moderate long-term adverse impact on passenger safety.

5.7.1.2 Wetlands and Wetland Buffer Zones

Under the No Action Alternative there would be no impacts to wetlands because there would be no construction within or adjacent to wetlands and no potential for impacts to wetlands.

5.7.1.3 Floodplain

Under the No Action Alternative there would be no impacts because there would be no construction within the flood zone and, as a result, floodplain would not be impacted.

5.7.1.4 Coastal Dunes

Under the No Action Alternative there would be no impacts to coastal dunes because there would be no construction in or adjacent to coastal dune resources.

5.7.1.5 Cultural Grasslands

Under the No Action Alternative there would be no impacts because there would be no construction in or adjacent to Cultural Grasslands.

5.7.1.6 Rare Species Habitat

Under the No Action Alternative there would be no impacts because construction would not take place in or adjacent to habitat used by listed species.

5.7.1.7 Drainage / Stormwater Management

The drainage system would not change under the No Action Alternative. There are no impacts to the drainage system associated with the No Action Alternative.

5.7.1.8 Visual Environment

There would be no change to the visual environment under the No Action Alternative, except that the Shack would not be repaired and repainted. The No Action Alternative will not impact visual resources.

5.7.2 Sightseeing Shack Improvements (Within Existing Footprint)

- **Replace Building**
- **Repair Building (Preferred Alternative)**

5.7.2.1 Transportation and Traffic

Construction of the Preferred Alternative would have overall beneficial impacts on Transportation and Traffic because it would improve the facility that houses FAA equipment. The project would not result in an increase in capacity of the Airport. Additional flights and additional passenger enplanements would not occur as a result of the project and there would be no increase in vehicular traffic as a result of the project. There would be a negligible adverse short-term impact during construction and minor beneficial long-term impacts on Transportation and Traffic.

5.7.2.2 Wetlands and Wetland Buffer Zones

The Preferred Alternative for the Sightseeing Shack does not involve any work within wetlands. Work within the buffer zone will be limited to the installation of erosion control measures at the limit of work. There would be no impact on wetlands or buffer zones as a result of implementation of the Preferred Alternative for this project element.

5.7.2.3 Floodplain

While the Preferred Alternative will occur within the coastal floodplain (at or below elevation 10 feet), improvements to the Sightseeing Shack will not involve placement of fill materials or excavation within the floodplain. As a result, it will not impact the ability of the floodplain to store floodwaters or prevent flood damage during 100-year storm events. Therefore, implementation of the Preferred Alternative will have no short-term or long-term impacts on floodplain.

5.7.2.4 Coastal Dunes

The Preferred Alternative does not involve any work within coastal dunes. Erosion control measures will be installed prior to construction of the project to prevent impacts to adjacent resources. As a result, there would be no impact on coastal dunes.

5.7.2.5 Cultural Grasslands

The Preferred Alternative does not involve any work within significant Cultural Grasslands. Erosion control measures will be installed prior to construction of the project to prevent impacts to adjacent resources and there would be no impact on Cultural Grasslands.

5.7.2.6 Rare Species Habitat

The Preferred Alternative does not involve any work within rare species habitat. Erosion control measures will be installed prior to construction of the project and there would be no impact on rare species habitat.

5.7.2.7 Drainage / Stormwater Management

The project does not involve any changes to paved surfaces. Erosion control measures will be installed prior to construction of the project and, as a result, there would be no impact to drainage and stormwater management.

5.7.2.8 Visual Environment

The project would repair the existing building. The project would maintain the existing footprint and scale of the building. It would not be a new element in the visual environment. Therefore, there would be no impacts to the Visual Environment.

5.8 Access Road to MALSF Approach Lights

5.8.1 No Action

5.8.1.1 Transportation and Traffic

The No Action Alternative would have moderate adverse impacts on Transportation and Traffic in terms of Airport operations. FAA and airport vehicles would need to continue to back down the narrow access road. This could affect driver safety.

5.8.1.2 Wetlands and Wetland Buffer Zones

Under the No Action Alternative there would be no impacts to wetlands because there would be no construction and wetlands would not be altered.

5.8.1.3 Floodplain

Under the No Action Alternative there would be no impacts to floodplain because there would no construction within flood zone elevations.

5.8.1.4 Coastal Dunes

Under the No Action Alternative there would be no impacts to coastal dunes because there would be no construction and coastal dune resources would not be altered.

5.8.1.5 Cultural Grasslands

Under the No Action Alternative there would be no impacts because there would be no construction and cultural grassland would not be altered.

5.8.1.6 Rare Species Habitat

Under the No Action Alternative there would be no impacts because construction would not take place adjacent to habitat used by listed species.

5.8.1.7 Drainage / Stormwater Management

The drainage system would not change under the No Action Alternative. There are no impacts to the drainage system associated with the No Action Alternative.

5.8.1.8 Visual Environment

There would be no change to the visual environment under the No Action Alternative. The No Action Alternative will not impact visual resources.

5.8.2 Construct Turn-Around (Preferred Alternative)

5.8.2.1 Transportation and Traffic

Construction of the Preferred Alternative would have a minor adverse short-term impact during construction and a moderate beneficial long-term impact on Transportation and Traffic in terms of Airport operations. The project would provide safety and operational improvements, such as ease of maintenance, but would not result in an increase in capacity of the Airport. Additional flights and additional passenger enplanements would not occur as a result of the project.

5.8.2.2 Wetlands and Wetland Buffer Zones

Construction of a turn-around area for the existing access road to the MALSF approach lights will result in the unavoidable fill of 960 SF of BVW in Wetland C/J/FK. On-site restoration is proposed at a 2.4:1 ratio in Area B as shown in Section 7. Additional offsite mitigation associated with the previously approved implemented Hatches Harbor Project has allowed for restoration of similar wetland habitat within the CCNS at a greater than 10:1 ratio.

The Preferred Alternative will have a minor adverse short-term impact on wetlands. Proposed mitigation will compensate for the impacts so that there will be only negligible direct adverse long-term impacts to wetlands resources upon successful completion of all wetland mitigation with the potential for moderate long-term direct and indirect beneficial impacts to wetland resources. A Statement of Findings is provided in Section 9 to comply with NPS NEPA requirements.

5.8.2.3 Floodplain

While at least a portion of the project will occur at elevations below the 100-year floodplain (10 to 11 feet above mean sea level), the project is not anticipated to have any adverse effect on the flood storage capacity relative to the ability of the low-lying areas to temporarily retain and release coastal waters during and following a flooding event at the Airport or within the surrounding CCNS lands.

Flood storage capacity on-site will not be impaired with construction of the Preferred Alternative. The proposed projects will not displace flood waters nor will it minimize the area available for flood storage. Flood storage capacity will be compensated by the proposed wetland restoration upon successful mitigation. Mitigation associated with the Hatches Harbor Project that was previously implemented has resulted in increased flushing of the salt marsh and other tidally influenced freshwater wetlands, and has improved the attenuation of floodwaters following major storm events, while also allowing for restoration of similar floodplain habitat within the CCNS. Therefore, the Preferred Alternative will have a negligible adverse short-term impact on floodplain. Proposed mitigation will compensate for the impacts so that there will be a minor to moderate long-term beneficial impact to floodplain. A Statement of Findings is provided in Section 9 to comply with NPS NEPA requirements.

5.8.2.4 Coastal Dunes

There are no coastal dunes within this project area and there would be no short- or long-term impacts to coastal dune resources.

5.8.2.5 Cultural Grasslands

A narrow band of Cultural Grasslands would be converted to pavement and gravel as the MASLF access road is extended from the end of Runway 25. However, there would be only negligible short-term adverse impacts with no long-term impact to this resource, as the remaining portions of the RW 25 End will be removed as part of the West End TW Improvements project and converted to Cultural Grasslands. There will be no net loss of Cultural Grasslands.

5.8.2.6 Rare Species Habitat

There will be no long-term impacts to rare species habitat with the implementation of the Preferred Alternative. Negligible short-term adverse impacts to Cultural Grasslands, which serve as potential habitat for Vesper Sparrow and Broom Crowberry, may occur during construction, and would be mitigated through construction timing, but there will be no long-term adverse impacts to rare species habitat as a result of implementing this project.

5.8.2.7 Drainage / Stormwater Management

The project involves the construction of a pervious gravel area and a minor amount of paved area. As such, there will be only negligible short-term and long-term adverse impacts to drainage and stormwater management with implementation of the Preferred Alternative.

5.8.2.8 Visual Environment

The project is a modification to an existing facility and would not be a new element in the visual environment. There would be no impact to the Visual Environment.

5.9 Service Access Roads to LES and AWOS

5.9.1 No Action

5.9.1.1 Transportation and Traffic

The No Action Alternative would have minor short term impacts and a moderate long-term adverse impact on Transportation and Traffic in terms of airport operations. FAA and airport vehicles would continue to access the LES and AWOS over coastal dunes. Vehicles may continue to become trapped in the sandy soils.

5.9.1.2 Wetlands and Wetland Buffer Zones

Under the No Action Alternative there would be no impacts to wetlands because there would be no construction and wetlands would not be altered.

5.9.1.3 Floodplain

Under the No Action Alternative there would be no impacts to floodplain because there would no construction within flood zone elevations.

5.9.1.4 Coastal Dunes

Under the No Action Alternative there would be no impacts to coastal dune, except for the current need to access the sites without an access road.

5.9.1.5 Cultural Grasslands

Under the No Action Alternative there would be no impacts to Cultural Grasslands because there would be no construction within Cultural Grasslands.

5.9.1.6 Rare Species Habitat

Under the No Action Alternative there would be no impact to rare species habitat because there would be no construction within resources used by listed species.

5.9.1.7 Drainage / Stormwater Management

The drainage system would not change under the No Action Alternative. There are no impacts to the drainage system associated with the No Action Alternative.

5.9.1.8 Visual Environment

There would be no change to the Visual Environment under the No Action Alternative because roads would not be constructed. The No Action Alternative will not impact visual resources.

5.9.2 Construct LES Option 2 / AWOS Option 2 (Preferred Alternative)

5.9.2.1 Transportation and Traffic

Construction of the Preferred Alternative would have a negligible adverse short-term and moderate beneficial long-term impact on Transportation and Traffic. The project would provide safety and operational improvements but would not result in an increase in capacity of the Airport. Additional flights and additional passenger enplanements would not occur as a result of the project.

5.9.2.2 Wetlands and Wetland Buffer Zones

Construction of the Preferred Alternative for the LES road will not impact wetlands. Construction of the Preferred Alternative for the AWOS road will result in 290 SF of unavoidable impacts to Wetland H. Wetland restoration proposed in Restoration Area C will serve to mitigate for this impact.

The Preferred Alternative will have a negligible adverse short-term impact on wetlands during construction and no long-term impact with no net loss of wetland resources. Successful implementation of all proposed on-site mitigation and enhancement as well as the previously implemented off-site mitigation within Hatches Harbor will result in moderate long-term beneficial impacts to wetlands and wetland buffer zones. A Statement of Findings is provided in Section 9 to comply with NPS NEPA requirements.

5.9.2.3 Floodplain

While at least a portion of the project will occur at elevations below the 100-year floodplain (10 to 11 feet above mean sea level), the project is not anticipated to have any adverse affect on the flood storage capacity relative to the ability of the low-lying areas to temporarily retain and release coastal waters during and following a flooding event at the Airport or within the surrounding CCNS lands.

Flood storage capacity of ILSF on-site will not be impaired with construction of the Preferred Alternative. Flood storage capacity will be compensated by the proposed wetland restoration and the previously implemented Hatches Harbor Project. The proposed projects will not displace flood waters nor will they minimize the area available for flood storage because of the proposed wetland mitigation. Therefore, the Preferred Alternative will have a negligible adverse short-term impact on floodplain during construction. Proposed mitigation will compensate for the impacts so that there will be a moderate long-term beneficial impact to the coastal floodplain. A Statement of Findings is provided in Section 9 to comply with NPS NEPA requirements.

5.9.2.4 Coastal Dunes

Construction of the Preferred Alternatives for the two access roadways will result in alterations to coastal dunes. Approximately 7,610 SF of coastal dune will be impacted for construction of the access road to the LES, and approximately 10,560 SF for the AWOS access road. The existing dune in this area is relatively flat and in some cases unvegetated. Approximately 27,500 SF of dune creation is proposed adjacent to the freshwater wetland restoration areas (Restoration Areas A and C) as mitigation for this and other CIP projects with impacts to coastal dunes. The Preferred Alternative will have a minor adverse short-term impact. Long-term impacts within coastal dunes will be negligible adverse. Implementation of proposed invasive species management will have minor beneficial long-term impacts on this resource upon successful implementation of proposed wetland restoration and enhancement measures.

5.9.2.5 Cultural Grasslands

The Preferred Alternative does not involve any work within Cultural Grasslands and there would be no impact on Cultural Grasslands.

5.9.2.6 Rare Species Habitat

The Preferred Alternatives for the Service Access Road to the LES and to the AWOS will result in alterations to coastal dunes and a small portion of Wetland H.

Coastal dune alterations may have minor short-term impacts on the habitats for the Eastern Box Turtle and for non-breeding habitat of the Eastern Spadefoot Toad, particularly in the dune areas immediately south of Wetland B.

Removal of impervious pavement from the relocation of the East End TW provides an opportunity to mitigate for rare species habitat impacts through creation of additional grassland habitat, coastal dune, and wetland (See Section 7). Wetland enhancements through invasive species management may improve the ability of this area to provide suitable native habitat.

In order to avoid direct impacts to the Eastern Box Turtle, pre-construction “turtle sweeps” within the limit of work will be conducted as part of the Turtle Protection Plan discussed in Section 7. Construction will take place in accordance with NHESP agency avoidance dates in order to avoid the active period for noted rare animal species. As such, adverse impacts to rare species habitat will be minor for the short-term and negligible for the long-term because of the proposed mitigation measures.

5.9.2.7 Drainage / Stormwater Management

The project involves the construction of new paved and gravel surfaces. Following construction, stormwater runoff will continue to be managed with infiltration through sheet flow into the grass safety areas. Runoff will have negligible contaminants because salt is not applied and engine repair does not take place in these locations.

Overall, the CIP projects will result in a net decrease in pavement at the Airport as shown in Table 5.2 at the end of this section. Accordingly, there would be negligible short term and no long-term adverse impacts to drainage and stormwater management and potentially a minor beneficial long-term impact.

5.9.2.8 Visual Environment

The project would provide service roads to existing facilities and would not be a significant new visual element. There would be no impact to the Visual Environment.

5.9.3 Construct LES Alternative 6 / AWOS Alternative 2

5.9.3.1 Transportation and Traffic

Construction of the LES-6/AWOS-2 Alternative would require an additional security gate and require the FAA vehicle to leave and enter the Airport twice to service the AWOS and the LES. The alignment would also add a new intersection with the CCNS bike path with the associated potential for safety conflicts. Therefore, there would be moderate adverse short-term and long-term impacts to Transportation and Traffic with this alternative.

5.9.3.2 Wetlands and Wetland Buffer Zones

Construction of the LES-6/AWOS-2 Alternative will result in 290 SF of unavoidable impacts to Wetland H. The LES-6/AWOS-2 Alternative will have a minor adverse short-term impact on wetlands. Wetland restoration proposed in Mitigation Areas A and C will serve to mitigate for this impact. As with the Preferred Alternative, successful implementation of all proposed on-site mitigation in conjunction with the off-site mitigation associated with the Hatches Harbor Project will result in moderate long-term beneficial impacts to wetlands and wetland buffer zones.

Proposed mitigation will compensate for the impacts so that there will be a negligible adverse long-term impact with no net loss of wetland resources, and the potential for moderate beneficial impacts to wetland resources in the long term when considering all proposed and previously implemented mitigation measures.

5.9.3.3 Floodplain

While at least a portion of the project will occur at elevations below the 100-year floodplain (10 to 11 feet above mean sea level), the project is not anticipated to have any adverse affect on the flood storage capacity relative to the ability of the low-lying areas to temporarily retain and release coastal waters during and following a major flooding event at the Airport or within the surrounding CCNS lands.

Flood storage capacity on-site will not be impaired with construction of the LES-6/AWOS-2 Alternative. Flood storage capacity will be compensated by the proposed wetland restoration. The proposed projects will not displace flood waters nor will they minimize the area available for flood storage because of the proposed wetland mitigation. As a result, the LES-6/AWOS-2 Alternative will have a negligible adverse short-term impact and no adverse long-term impact on floodplain. The previously implemented Hatches Harbor Project resulted in moderate long-term beneficial impacts to the coastal floodplain for both on-site and off-site areas of coastal floodplain within the CCNS.

5.9.3.4 Coastal Dunes

Construction of the LES-6/AWOS-2 Alternative for the two access roadways will result in alterations to coastal dunes. Approximately 7,610 SF of coastal dune will be impacted for construction of the access road to the LES, and approximately 10,560 SF for the AWOS access road. The existing dune in this area is relatively flat and in some cases unvegetated. Approximately 27,500 SF of dune creation is proposed adjacent to the proposed freshwater wetland restoration area within Mitigation Areas A and C as mitigation for this and other CIP projects with impacts to coastal dunes. The LES-6/AWOS-2 Alternative will have a minor adverse short-term impact and negligible adverse long-term impact on coastal dunes because of proposed mitigation. Implementation of the proposed invasive species management program would have minor beneficial long-term impacts on this coastal resource upon successful implementation of proposed mitigation.

5.9.3.5 Cultural Grasslands

The LES-6/AWOS-2 Alternative does not involve any work within Cultural Grasslands. There will be no impact on Cultural Grasslands.

5.9.3.6 Rare Species Habitat

The LES-6/AWOS-2 Alternative for the Service Access Road to the LES and to the AWOS will result in alterations to coastal dunes and a small portion of Wetland H.

Coastal dune alterations may have minor long-term adverse impacts on the habitats for the Eastern Box Turtle and for non-breeding habitat of the Eastern Spadefoot Toad, particularly in the dune areas immediately south of Wetland B.

Removal of impervious pavement from the relocation of the East End TW provides an opportunity to mitigate for rare species habitat impacts through creation of additional grassland habitat, coastal dune and wetland (See Section 7). Wetland enhancements through invasive species management would improve the ability of this area to provide suitable native habitat.

As with the Preferred Alternative, pre-construction “turtle sweeps” within the limit of work will be conducted in order to avoid direct impacts to the Eastern Box Turtle as discussed in Section 7. Construction will take place in accordance with NHESP agency avoidance dates in order to avoid the active period for all rare animal species identified on-site. As such, adverse impacts to rare species habitat will be minor for the short-term and negligible for the long-term because of the proposed mitigation measures.

5.9.3.7 Drainage / Stormwater Management

The LES-6/AWOS-2 Alternative involves construction of new paved surfaces. This alternative would result in less pavement area than under the Preferred Alternative, but the logistical, security, and safety issues somewhat outweigh this benefit since there will be an overall net reduction in pavement at the Airport as a result of implementing all safety and security CIP projects. Following construction, stormwater runoff will be managed by allowing for infiltration through sheet flow into the grass areas adjacent to the pavement. Runoff from the Airport’s runways, taxiways, and service roadways has negligible contaminants because salt is not applied and engine repair does not take place in these locations.

Overall, the CIP projects will result in a net decrease in pavement at the Airport, as shown in Table 5.2 and Figure 5.2 at the end of this section. There would be negligible short term and no long-term adverse impacts to drainage and stormwater management.

5.9.3.8 Visual Environment

The LES-6/AWOS-2 Alternative would provide a service road to existing facilities directly from Race Point Road across the bike path and would introduce a new visual element. This would constitute a negligible adverse impact to the Visual Environment.

5.10 Perimeter Safety and Security Fence

5.10.1 No Action

5.10.1.1 Transportation and Traffic

The No Action Alternative would have a moderate adverse long-term impact on Transportation and Traffic in terms of Airport operations. Scheduled flights might be delayed to clear the runway of wildlife. Incidents of deer strikes would not be reduced. Recreational hikers and hunters will continue to access the airfield.

5.10.1.2 Wetlands and Wetland Buffer Zones

Under the No Action Alternative there would be no impacts to wetland resources since there would be no construction within wetlands. Vegetation within wetlands would not be cut and fence posts would not be installed.

5.10.1.3 Floodplain

Under the No Action Alternative, there would be no impacts to Floodplain because there would be no alteration of flood zone elevations.

5.10.1.4 Coastal Dunes

Under the No Action Alternative there would be no impacts to coastal dunes because there would be no construction and coastal dunes would not be altered for the project.

5.10.1.5 Cultural Grasslands

Under the No Action Alternative there would be no impacts because there would be no construction adjacent to Cultural Grassland.

5.10.1.6 Rare Species Habitat

Under the No Action Alternative there would be no impacts to rare species habitat because there would be no construction within resources used by listed species.

5.10.1.7 Drainage / Stormwater Management

Under the No Action Alternative, there would be no impacts to drainage because there would be no construction.

5.10.1.8 Visual Environment

Under the No Action Alternative, there would be no additional fence, and therefore no impacts to the Visual Environment.

5.10.2 Construct Fence Concept 6 (Preferred Alternative)

5.10.2.1 Transportation and Traffic

Construction of the Preferred Alternative would have a moderate beneficial impact on Transportation and Traffic in terms of Airport operations. The fence project would provide safety and operational improvements as discussed in Section 2.2 but would not result in an increase in capacity of the Airport. Additional flights and additional passenger enplanements would not occur as a result of the project. There would be no increase in vehicular traffic as a result of the project. The project will have a moderate beneficial long-term impact on Transportation and Traffic..

5.10.2.2 Wetlands and Wetland Buffer Zones

Installation of the perimeter safety/security fence would result in alterations to freshwater wetlands, both isolated wetlands (IVW) and bordering vegetated wetlands (BVW). For the Preferred Alternative, the type of impact has been further refined to distinguish between direct (permanent) and indirect (secondary) impacts as introduced in Section 5.1.1. The direct impacts to BVW and IVW for Concept 6 are based on one square foot of impact per fence post, with fence posts occurring every 10 feet, and also include the area of wetland vegetation community that is significantly altered for vegetation management. For example, converting an area of IVW or BVW to pavement, grassland, or a fence post location would be a direct impact. Additionally, vegetation management within BVW and IVW along the fence alignment that converts a forested BVW or IVW wetland to a low growing vegetation community would also be a direct impact. Cutting an area of *Phragmites* has not been included as an impact. To minimize impacts from constructing foundations for the posts, some posts will be driven to avoid the need for a footing as shown in a detail on Figure 6.7. To minimize impacts from vegetation management, the width of the clear area on both sides of the fence is 4 feet rather than the typically-required 10 feet on either side. Construction of the fence will result in approximately 1,152 SF of direct impacts to BVW. Approximately 25,648 SF of direct impacts to IVW would occur for the installation of fence posts and vegetation management. Mitigation Area B will mitigate for direct impacts to BVW, while providing BVW restoration for the direct fence impacts. In addition, previously implemented measures from the Hatches Harbor Project will contribute to the overall mitigation, compensating for impacts associated with this CIP projects. Mitigation Areas A and C will provide mitigation for the direct impacts to IVW. Additional mitigation for indirect impacts will be provided as on-site wetland enhancement, intended to enhance or restore some of the lost functions and values within freshwater wetlands that have deteriorated over time due to the presence of *Phragmites australis*, an invasive species in Massachusetts.

Indirect impacts would result from vegetation maintenance along the fence that would not significantly change the vegetation community within the wetland or its functions and values. For example, maintaining the vegetation within a scrub wetland with shorter shrubs would be an indirect impact. Proposed vegetation management will be similar to current practices as discussed in Section 7. The preferred fence alignment has been located strategically to eliminate the need for interior patrol roads by siting the fence immediately north of the existing parallel taxiway and within existing maintained areas where feasible to the south (i.e., along the tree line) to further reduce impacts to natural resources. Trees would be cut but the stumps and roots would not be grubbed. Smaller shrubs would be cut individually or a brush hog would be used. Groundcover would not be disturbed. A width of approximately 4 feet on either side of the fence (i.e., eight feet total width) would be managed to allow for maintenance and inspection. Indirect (secondary) impacts to IVW are currently estimated to be approximately 3,952 SF, and to BVW, 8,972 SF.

Vegetation management will be conducted once every two to three years and will only occur within an eight-foot wide corridor along the fence, where necessary. Certain areas within bordering and isolated wetlands are open with low-growing vegetation and little to no shrub or tree canopy. Vegetation management within these portions of wetland would be minimal due to existing conditions. As such, vegetation maintenance will not alter the vegetation composition and distribution or general functions of many of the wetlands within the fence footprint. In areas where the fence will traverse scrub-shrub or forested wetlands, vegetation will be maintained once every two to three years and will be cut (not removed) to the height of low-growing shrubs to allow for periodic maintenance of the fence and a clear line of sight along the fence. While vegetation management within these areas may result in a long-term transition from a forested wetland to a low-growing shrub wetland, these areas are anticipated to maintain many of their functions and values and will remain as wetlands.

The Preferred Alternative for the Safety/Security Fence will have moderate short-term and minor long-term impact on wetlands. Long-term direct impacts associated with the fence posts are anticipated to have negligible impacts on the wetland areas. The long-term presence of an chain-link fence and the long-term management of the vegetation communities within the eight-foot maintenance corridor would vary, depending upon the intensity of the management required, ranging from minor long-term impacts within open emergent marshes to moderate impacts to the scrub shrub and forested communities. Anticipated impacts to the functions and values of these managed wetlands would include changes to the species composition and the habitat provided to local wildlife populations, although given the relatively narrow footprint of the maintenance area, and considering the vast extent of these habitats in the vicinity of the Airport, these changes are anticipated to be negligible for the long-term. Impacts to the hydrologic regime are not anticipated. Proposed on-site mitigation will compensate for the proposed impacts so that there will be only minor adverse long-term impacts with no net loss of wetland resources on-site. Off-site mitigation associated with the Hatches Harbor Project has resulted in moderate long-term direct and indirect beneficial impacts to wetland resources within the Park.

5.10.2.3 Floodplain

While at least a portion of the fence project will occur at elevations below the 100-year floodplain, the project is not anticipated to have any adverse affect on the flood storage capacity relative to the ability of the low-lying areas to temporarily retain and release coastal waters during and following a flooding event at the Airport or within the surrounding CCNS lands.

Flood storage capacity on-site will not be impaired with construction of the Preferred Alternative. Flood storage capacity will be compensated by the proposed wetland restoration upon successful restoration of on-site low-lying wetland areas within the coastal floodzone with additional beneficial mitigation provided by the Hatches Harbor Project. The proposed project will not displace flood waters nor will it minimize the area available for flood storage because of the proposed wetland mitigation. The Preferred Alternative will have a negligible adverse short-term impact on floodplain within the Park. Proposed mitigation will offset the impacts so that there will be moderate long-term beneficial impacts to the coastal floodplain upon successful implementation of mitigation. A Statement of Findings is provided in Section 9 to comply with NPS NEPA requirements.

5.10.2.4 Coastal Dunes

Installation of the perimeter safety/security fence would result in direct and indirect alterations to coastal dune. Direct impacts (8,060 SF) are based on one square foot of impact per fence post to be installed at 10-foot intervals and vegetation management that significantly changes the vegetation cover. Indirect impacts to the vegetation and topography of the dune will occur within the footprint of the four-foot wide maintenance areas on either side of the fence (eight feet wide total), and would involve tree or limb removal and pruning or brush hogging of shrubs to maintain clear areas on either side of the fence. The resultant plant community within the managed areas of coastal dunes will be a grassy or low-growing shrub community, and vegetation removal is not anticipated to result in long-term impairment or destruction of these coastal dunes. Construction of the fence will result in approximately 8,060 SF of direct impacts and 24,028 SF of indirect impacts to coastal dune. Construction of patrol roads is not proposed and no changes in the existing topography within the coastal dune are proposed. The fence will consist of a vinyl coated chain-link fabric with 2-inch mesh openings. It is not anticipated to have any adverse impacts on aeolian processes, particularly since the proposed fence is not the typical design intended for dune creation/stabilization (e.g., snow fencing). In addition, the majority of the fence is proposed among stable secondary dunes where wind-borne sands are less likely to shift and alter the topographic relief over time.

The installation of a safety/security fence may have a moderate effect on the ability of the coastal dune to provide wildlife habitat for some species. Impacts to wildlife habitat and wildlife corridors have been minimized by locating the fence as close as allowable to the airfield without becoming an airspace hazard. The standard chain link fence fabric has openings that will allow for the passage of some wildlife, such as small mammals, amphibians, and some reptiles. In addition, gaps are proposed along sections of the fence in order to reduce obstructions to passage for slightly larger animals, including Eastern Box Turtles and the Eastern Spadefoot Toad. Extensive habitat analyses have been conducted for the Eastern Spadefoot Toad in conjunction with Brad Timm, Ph.D., at the direction of NHESP to identify potential and prime habitat so that the fence design would avoid these areas. Since most fence posts will be driven, land disturbance impacts to coastal dune (i.e., Eastern Spadefoot non-breeding habitat) are anticipated to be minimal, since excavation will not be involved. In addition, vegetation maintenance involves cutting and not the removal of entire plants, so the composition of sediments and root structures will not be altered and should not impair burrowing areas for the Eastern Spadefoot Toad. Therefore, adverse impacts to rare species habitat would be minor for the short-term and negligible for the long-term because of the proposed mitigation measures. While the fence will partially enclose approximately 113 acres at the Airport, it is important to note that the area within the fence consists of airport infrastructure (paved runway and taxiways, buildings, parking areas, navigational aids, and managed safety areas). The purpose of installing the fence is to restrict large animals, such as deer and coyote, as well as non-authorized personnel from the Airport operation areas. The design mitigation measures and construction timing and phasing mitigation measures will mitigate adverse impacts to resources and the species that use these resources.

5.10.2.5 Cultural Grasslands

The Preferred Alternative does not involve any work within Cultural Grasslands. There will be no impact on Cultural Grasslands.

5.10.2.6 Rare Species Habitat

Installation of a Perimeter Safety/Security Fence has been designed to minimize direct and indirect alterations to potential rare species habitat for the Eastern Box Turtle and the Eastern Spadefoot Toad. No direct impacts will occur within the currently identified population of the Broom Crowberry. As the Preferred Alternative for the fence is not proposed to occur within managed grassland habitat, no direct impacts to Vesper Sparrow nesting habitat are anticipated.

All construction activities are proposed during the Airport's "off-season" (after Labor Day and before Memorial Day) to minimize disruptions to Airport operations as well as to avoid construction during peak wildlife activity. Rare species, such as the Eastern Box Turtle and Eastern Spadefoot Toad, are most active from mid-April to late October. As such, the installation of the fence would occur outside of these timeframes to avoid peak activity periods of these species. Incorporation of gaps in the bottom of the fence at regular intervals will minimize long-term adverse impacts due to obstruction of wildlife movement, including for Eastern Box Turtles, other reptiles or amphibians, and small mammals during more active wildlife periods, once the fence has been installed. All vegetation management will take place in the winter months (e.g., after mid-late November) when the state-listed species are not active.

As noted above, the revised fence alignment will be placed in a location that will allow for the minimization of wildlife corridor disruption, and has been located to specifically avoid direct impacts to prime Eastern Spadefoot Toad breeding habitat to the extent practicable. The installation of the safety/security fence, as currently proposed, is designed to minimize impacts to rare species habitat to the extent practicable while meeting FAA, TSA, and MassDOT safety and security mandates. Therefore, adverse impacts to rare species will be minor for the short-term and negligible for the long-term because of the proposed mitigation measures.

5.10.2.7 Drainage / Stormwater Management

The project does not involve any changes to paved surfaces. Therefore, there will be no impact to drainage and stormwater management.

5.10.2.8 Visual Environment

There are some existing segments of safety/security fencing at the Airport and one section adjacent to the bike path is shown in Photo 5-2. The new sections of fencing will be within the vicinity of the managed airfield which minimizes the effect on the various viewer groups. Additionally, the fence will be black coated vinyl to minimize the visual impact. It is expected that the fence will have a minor adverse impact on the visual experience of visitors to the CCNS and will not impair the values of the Park.

Photo 5-2 Safety Security Fence. View of existing section between bike path and Runway 25 safety area.

5.10.3 Construct Fence Concept 4

5.10.3.1 Transportation and Traffic

Construction of the Fence Concept 4 Alternative would have a moderate beneficial impact on Transportation and Traffic. The project would provide safety and operational improvements but would not result in an increase in capacity of the airport. Additional flights and additional passenger enplanements would not occur as a result of the project. There would be no increase in vehicular traffic as a result of the project and a moderate beneficial impact on Transportation and Traffic.

5.10.3.2 Wetlands and Wetland Buffer Zones

Concept 4 was developed to avoid impacts to wetland areas and was located along the dune ridge to the north of the airfield, and along the base of the dune ridge to the south.

The Concept 4 alignment would impact approximately 530 SF (direct) and 47,572 SF (indirect) of BVW. The concept would impact approximately 60 SF (direct) and 5,274 SF (indirect) of IVW on the southern side of the Airport. Wetland impacts have been minimized by locating the fence outside of wetland areas to the extent possible, and by reducing the width for vegetation clearing to 4 feet.

On the northern side, the fence would avoid Wetland C and part of Wetland C/J/FK (BVW). On the south side, the alignment avoids Wetland L, K, and the series of smaller isolated wetlands within this area. This alternative significantly reduces impacts to isolated wetlands on both the north and south sides while maintaining the minimum offset for the primary surface clear zone along the runway. There would be a moderate adverse direct impact to wetlands with this concept. Proposed mitigation, as discussed above with the Preferred Alternative would off-set some of the wetland impacts.

5.10.3.3 Floodplain

The Concept 4 fence alignment has the potential to impact tidal flow and flood storage capacity since the fence is in the vicinity of the ILS and may impede normal tidal flow and flooding during storm events. As a result, there would be a moderate adverse long-term impact to floodplain.

5.10.1.4 Coastal Dunes

Impacts to the coastal dunes would be minimized by following, as much as possible, the base of the dunes rather than maintaining a straight alignment that would go over the tops of the dunes. This Concept would impact 960 SF (direct) and 56,575 SF (indirect) of coastal dune. Therefore, there would be a minor short-term and negligible long-term adverse impact to coastal dunes.

5.10.3.5 Cultural Grasslands

Concept 4 does not involve any work within Cultural Grasslands. There will be no impact on Cultural Grasslands.

5.10.3.6 Rare Species Habitat

Concept 4 would enclose approximately 200 acres. This proposed alignment would result in habitat fragmentation on the north and south sides of the Airport, bisecting the large concentration of IVW and BVW on the northern portion of the Airport from the expansive adjacent upland areas of coastal dune seaward of the Airport. Habitat fragmentation on the south side of the Airport would be similar, although to a lesser degree, as not all of the wetland areas south of the Airport within the lease area would be isolated from the upland dune habitat. Results of the field surveys specifically intended to identify and assess breeding and non-breeding habitat for the Eastern Spadefoot Toad, indicate that the placement of the fence along the base of the dune ridge south of the Airport would likely interfere with Spadefoot migrations to the area of prime breeding habitat associated with Wetland K, as well as bisecting clusters of semi-permanent wetlands from the adjoining upland habitat, and would likely result in a “take” of this species as defined under the MESA regulations. While low wildlife tunnels would be incorporated into this fence design as well, this alternative would have a moderate short term and minor long term adverse impact on rare species habitat.

5.10.3.7 Drainage / Stormwater Management

The project does not involve any changes to paved surfaces or change in drainage patterns and there will be no impact to drainage and stormwater management.

5.10.3.8 Visual Environment

Visual impacts would be minimized because the fence would follow the lower elevations and blend in with vegetated areas, but the impacts would not be eliminated. As such, there would be a moderate adverse impact to the Visual Environment.

5.10.4 Construct Fence Concept 1

5.10.4.1 Transportation and Traffic

Construction of Fence Concept 1 would have moderate short-term and long-term beneficial impact on Transportation and Traffic. The project would provide safety and operational improvements but would not result in an increase in capacity of the Airport. Additional flights and additional passenger enplanements would not occur as a result of the project.

5.10.4.2 Wetlands and Wetland Buffer Zones

The alignment would impact approximately 450 SF (direct) and 17,136 SF (indirect) of BVW. There would be 230 SF (direct) and 31,374 SF (indirect) impacts to isolated wetlands. Wetlands and wetland buffer zones are identified on Figures 4.4 and 4.5 in Section 4.

There would be moderate adverse short-term and minor long-term impacts to Wetlands and Wetland Buffer Zones, which would be off-set somewhat by the proposed mitigation, although to a lesser degree than with the Preferred Alternative for the fence project.

5.10.4.3 Floodplain

The Lease line Concept 1 fence alignment has the potential to impact tidal flow and flood storage capacity since the presence of a fence in the vicinity of the ILS may impede normal tidal flow and flooding during storm events. Therefore, this alternative would have a moderate short-term and moderate long-term adverse impact on the coastal floodplain.

5.10.4.4 Coastal Dunes

This concept would impact 1,440 SF (direct) and 200,872 SF (indirect) of coastal dune. The fence would maintain the alignment over the coastal dunes, regardless of topography. As discussed in Section 4, the northern dunes are less stable and more dynamic than the southern dunes, which have been stabilized by the established vegetation that includes trees and shrubs in addition to herbaceous species. Therefore, there would potentially be moderate short-term and minor long-term adverse impacts, particularly to coastal dunes to the north of the Airport, while long-term maintenance may adversely impact some of the more stable dunes to the south once larger trees or established shrubs are cut.

5.10.4.5 Cultural Grasslands

Concept 1 does not involve any work within Cultural Grasslands. There will be no impact on Cultural Grasslands.

5.10.4.6 Rare Species Habitat

Concept 1 would impact potential habitat for rare species. The location of known and potential rare species habitat is discussed in Section 4. Concept 1 would enclose nearly the entire 322 acres of the lease area and impact potential habitat for rare species. This proposed alignment would result in habitat fragmentation on the north and south sides of the Airport, bisecting the large concentration of IVW and BVW on the northern portion of the Airport from the seaward expanse of adjacent upland areas of coastal dune. Habitat fragmentation on the south side of the Airport would be similar, although to a lesser degree, as not all of the wetland areas south of the Airport within the lease area would be isolated from the upland dune habitat. Concept 1 fence alignment would directly impact the significant wetlands identified as prime Spadefoot Toad breeding habitat (Wetlands K and L), it is likely that this alignment would result in a “take” of rare species habitat, similar to Concept 4. Small wildlife gaps will be incorporated into the bottom of the fence in order to lessen the potential impacts to Eastern Box Turtle movements between habitat areas. Therefore, this alternative would have a moderate short-term and minor long-term adverse impact on rare species habitat.

5.10.4.7 Drainage / Stormwater Management

The project does not involve any changes to paved surfaces or changes in the drainage patterns. There will be no impact to drainage and stormwater management.

5.10.4.8 Visual Environment

The Concept 1 fence alignment constitutes a new visual element. Along the northern side, the fence would likely be viewed as an incompatible element in the natural environment because of the open unvegetated areas and the expectations of the viewer groups. On the southern side of the site, the fence would be within a vegetated area without long open views. This alternative would have a moderate short-term and long-term adverse impact on the Visual Environment.

5.11 Auto Parking

5.11.1 No Action

5.11.1.1 Transportation and Traffic

The No Action Alternative would have a moderate adverse impact on Transportation and Traffic because additional parking would not be constructed. During occasional peak periods, cars would continue to park along Airport Drive and idle waiting for a parking space.

5.11.1.2 Wetlands and Wetland Buffer Zones

Under the No Action Alternative, the project would not be built and there would be no impacts to adjacent wetlands.

5.11.1.3 Floodplain

Under the No Action Alternative, the project would not be built and there would be no impacts to Floodplain.

5.11.1.4 Coastal Dunes

Under the No Action Alternative, the project would not be built and there would be no impacts to coastal dunes.

5.11.1.5 Cultural Grasslands

Under the No Action Alternative, the project would not be built and there would be no impacts to adjacent Cultural Grasslands.

5.11.1.6 Rare Species Habitat

Under the No Action Alternative, the project would not be built and there would be no impacts to rare species habitat.

5.11.1.7 Drainage / Stormwater Management

Under the No Action Alternative, the project would not be built and there would be no improvements to the drainage. Therefore, there would be a negligible adverse impact on drainage.

5.11.1.8 Visual Environment

Under the No Action Alternative, the additional parking area would not be built and there would be no impacts to the Visual Environment.

5.11.2 Construct Concept 4 Auto Parking (Preferred Alternative)

5.11.2.1 Transportation and Traffic

Concept 4 would construct 28 additional spaces for Phase 1 (for a total of 90 spaces). Only after additional parking studies have been carried out and reviewed and approved by NPS and CCC, would Phase 2 be constructed with 29 additional spaces, for a Phase 1 and 2 total of 119 spaces.

No impacts to pedestrian or bicycle movement are anticipated with this project. During construction, signage and fencing will separate the work area.

The project would address existing demand for parking and is not intended to attract more passengers. TDM measures such as taxicab sharing and on-call shuttle bus service are in place and would be improved upon if feasible. Therefore, there would be no increase in vehicular traffic as a result of the project and there would be a moderate beneficial long-term impact on Transportation and Traffic.

5.11.2.2 Wetlands and Wetland Buffer Zones

The Preferred Alternative for the parking lot expansion will not directly impact wetlands but would have unavoidable impacts to Buffer Zone of approximately 3,900 SF for Phase 1, and 1,900 SF for Phase 2 (for a total of 5,800 SF of Buffer Zone impacts) following the completion of both parking lot phases. Given that the existing parking lot is situated between two wetland areas (Wetland A and Wetland C), there is no location that would avoid alterations within the Buffer Zone while still addressing the project purpose. Installation of erosion and sedimentation controls prior to construction is designed to protect the adjacent wetland resources during earth moving activities and until all sediments are stabilized. Therefore, there would be negligible adverse short-term and no long-term impacts to wetland buffer resources associated with the proposed parking lot expansion.

5.11.2.3 Floodplain

The Preferred Alternative will not alter the ability of the flood zone to attenuate stormwater and to provide flood damage protection. As such, there will be negligible short-term and no long-term impacts on floodplain.

5.11.2.4 Coastal Dunes

Construction of the Preferred Alternative for the expansion of the Auto Parking lot would directly impact approximately 7,315 SF of coastal dune for Phase 1. Upon approval to construct Phase 2, an additional 5,707 SF of coastal dune would be altered. The total impact from the two phases would be approximately 13,022 SF of coastal dune. Coastal dune creation will occur within the pavement removal area within Mitigation Areas A and C as described in Section 7. Management of invasive species within other existing coastal dune habitat is also proposed. The Preferred Alternative for the parking lot expansion would have a minor adverse short-term and negligible long-term impact on coastal dunes upon successful implementation of the proposed mitigation measures.

5.11.2.5 Cultural Grasslands

The Preferred Alternative does not involve any work within Cultural Grasslands. There would be a no impact on Cultural Grasslands.

5.11.2.6 Rare Species Habitat

The Preferred Alternative for the improvements to the auto parking lot will result in impacts to coastal dune in an area adjacent to the existing lot. This may impact Eastern Box Turtle habitat. Based upon recently conducted habitat assessments for the Eastern Spadefoot Toad, this area may provide some non-breeding habitat for this species, although more ideal upland habitat for burrowing and foraging activities is located to the southeast near Wetland B and the bike path, as well as to the west along the north and south sides of the airfield.

This area of coastal dune is adjacent to Race Point Road and the intersection with the Airport entrance. Impacts to this area of coastal dune may have minimal impacts to wildlife and rare species habitat given the location. In order to avoid direct impacts to Eastern Box Turtle, pre-construction “turtle sweeps” within the limit of work will be conducted as part of the Turtle Protection Plan discussed in Section 7. Adverse impacts to rare species will be minor for the short-term and negligible for the long-term because of the proposed mitigation measures, including construction timing.

5.11.2.7 Drainage / Stormwater Management

Construction of Phase 1 will result in 2,835 SF of additional pavement for the aisle. The parking spaces will be gravel. Currently, runoff from the paved aisles flows to the unpaved median and gravel parking spaces and infiltrates into the soil. Additional areas of infiltration swales would be constructed for Phase 1.

Phase 2 would result in an approximate 2,803 SF net increase in impervious area. The additional parking spaces will be gravel and only the driveway and aisles will be paved. The net increase in impervious surface from the 2 phases is 5,638 SF. Stormwater BMPs are proposed, as discussed below.

Bioretention was selected as the treatment system for Phase 2 of the auto parking area because it has been shown to effectively remove high levels of the typical pollutants associated with parking areas runoff, and because it also promotes infiltration after treatment to support groundwater recharge objectives.

Grass filter strips will be located between paved areas and the bioretention systems to provide pre-treatment prior to the bioretention system. These grass filter strips provide some removal of sediment and other pollutants prior to treatment and help extend the design life of the bioretention system and reduce overall maintenance requirements.

The bioretention area and infiltration swales proposed for Phase 2 of the auto parking area will provide recharge to groundwater and water quality treatment The bioretention system is a soil filter that incorporates a shallow landscaped depression to filter stormwater runoff before either infiltrating to groundwater or sheet flowing to an adjacent wetland. The bioretention area will be sized to treat, store, and partially infiltrate the 1-inch storm event. A schematic of a bioretention system is provided on Figure 5.1.

Overall, the CIP projects will result in a net decrease in pavement at the Airport as shown in Table 5.2 at the end of this section. There will be moderate beneficial long-term impact to drainage and stormwater management.

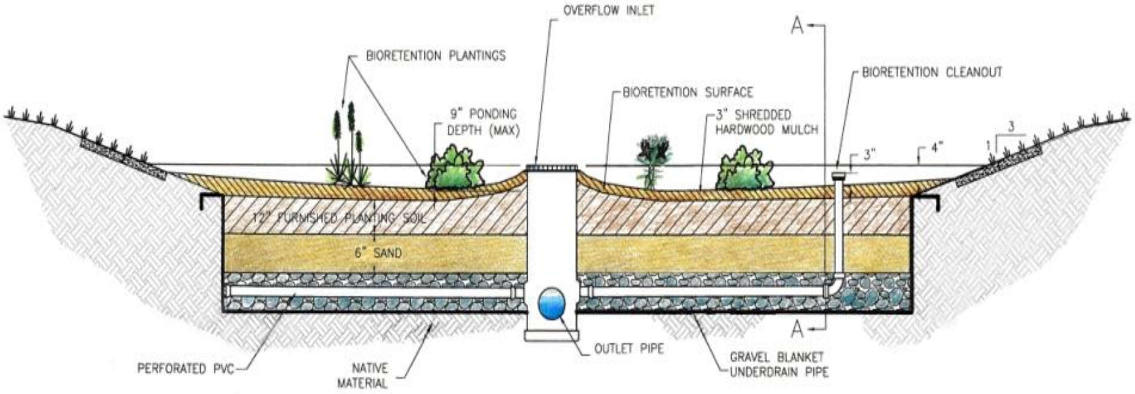


Figure 5.1 Schematic of a Bioretention System for Phase 2**.** (Horsley Witten Group with permission)

5.11.2.8 Visual Environment

The existing parking area at the Airport is visible from the Race Point Beach parking lot and the bike path as shown in photos in Section 4. The new area of parking will be adjacent to the existing parking area and Airport Drive. There are two NPS parking areas visible from Race Point Road, the Visitors Center parking lot and the Race Point Beach parking lot. A landscaping buffer is proposed, which will screen the effect on the various viewer groups. Figure 5.3 shows a photo of the existing Airport parking lot, looking from the bike path between the Airport access road and the Race Point Beach parking lot. Figure 5.4 shows an example of a photo simulation of the Phase I and Phase 2 parking areas (along with the proposed Terminal building discussed in Section 5.12.2), showing how visual impacts can be evaluated with various landscape layouts and designs. Therefore, it is expected that both Phase 1 and Phase 2 parking area will have a minor short-term adverse and negligible adverse long-term impact on the visual experience of visitors to the CCNS or users of the Airport.

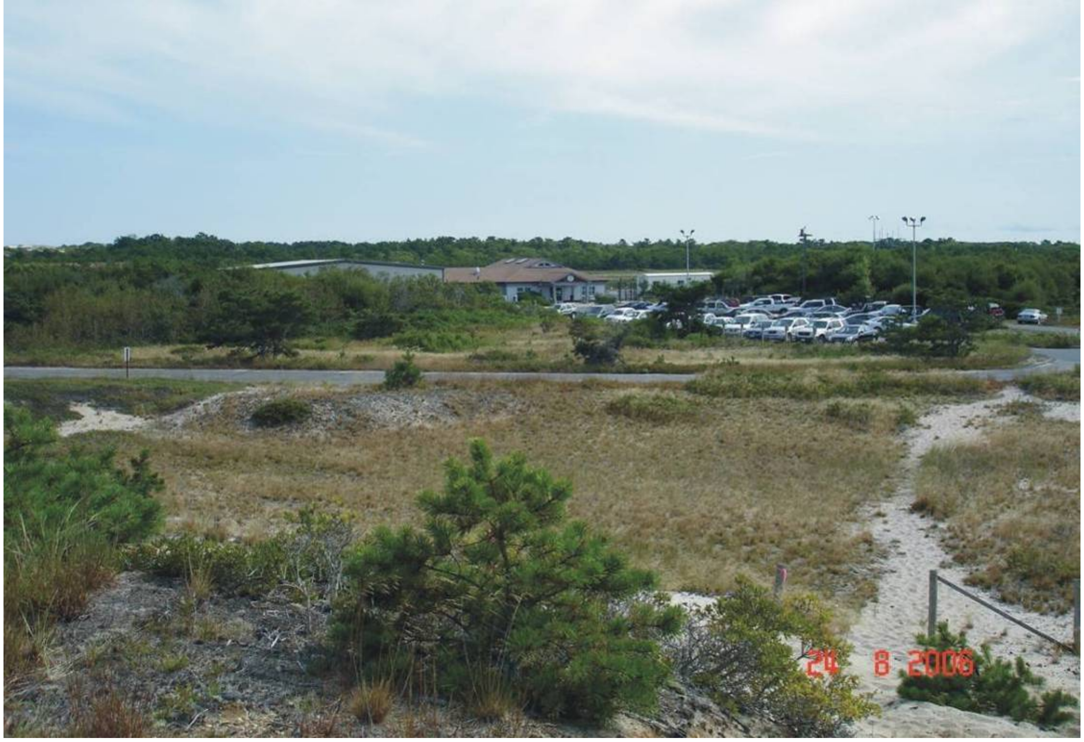


Photo 5-3 Existing view of Airport parking lot from bike path.

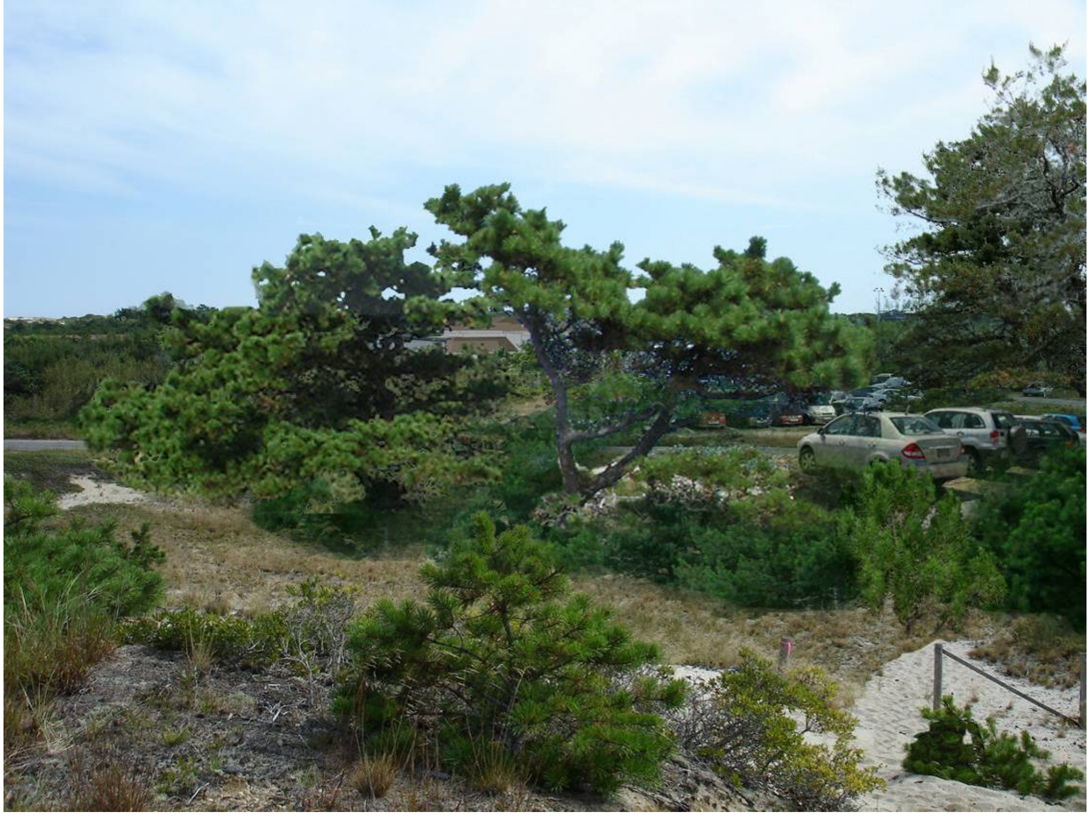


Photo 5-4 Photo Simulation Example Showing Visual Impact Assessment (Proposed auto parking lot and proposed terminal building discussed in Section 5.12 with a vegetation barrier)

5.11.3 Construct Concept 1 Auto Parking

5.11.3.1 Transportation

Concept 1 would construct 57 additional spaces. A parking control gate had been included in this option for the NPC/Draft EA/EIR, but additional evaluation of the cost for staffing and equipment has indicated that it would be cost prohibitive.

No impacts to pedestrian or bicycle movement are anticipated with this project. During construction, signage and fencing will separate the work area.

The project would address existing demand for parking and projected future long-term parking needs. TDM measures such as taxicab sharing and on-call shuttle bus service are in place and would be improved upon if feasible. Therefore there would be a moderate beneficial impact on Transportation.

5.11.3.2 Wetlands and Wetland Buffer Zones

This concept was identified as the preferred alternative in the NPC/Draft EA/EIR. Concept 1 would impact 4,650 SF of IVW. Therefore, this alternative would be deemed to have a moderate short-term and minor long-term adverse impact to wetlands. Impacts to wetlands would be offset by proposed mitigation measures. However, in the comment letter on the NPC/Draft EIR/EA, DEP SERO indicated that this project would require a Variance from the Water Quality Certification (WQC) because the wetland areas at the Airport are all Outstanding Resource Waters (ORWs), and this project would not qualify for a Variance from the WQC regulations since it is not a safety or security project.

5.11.3.3 Floodplain

Concept 1 would impact floodplain, as construction would impact wetlands. As such, there would be a negligible adverse short-term and no long-term impact with proposed mitigation.

5.11.3.4 Coastal Dunes

Concept 1 would impact at least 11,500 SF of coastal dunes. This would have a minor long-term and short-term adverse impact on coastal dune resources.

5.11.3.5 Cultural Grasslands

Concept 1 does not involve any work within Cultural Grasslands. Therefore, there would be no impact on Cultural Grasslands.

5.11.3.6 Rare Species Habitat

Concept 1 for the improvements to the auto parking lot will result in impacts to coastal dune in an area adjacent to the existing lot. This may impact Eastern Box Turtle habitat. Based upon habitat assessments for the Eastern Spadefoot Toad, this area may provide some non-breeding habitat for this species, although more ideal upland habitat for burrowing and foraging activities is located to the southeast near Wetland B and the bike path, as well as to the west along the north and south sides of the airfield.

This area of coastal dune is adjacent to Race Point Road and the intersection with the Airport entrance. Impacts to this area of coastal dune may have minimal impacts to wildlife and rare species habitat given the location. In order to avoid direct impacts to the Eastern Box Turtle, pre-construction “turtle sweeps” within the limit of work will be conducted as part of the Turtle Protection Plan discussed in Section 7. Therefore, adverse impacts to rare species would be minor for the short-term and negligible for the long-term because of the proposed mitigation measures.

5.11.3.7 Drainage / Stormwater Management

Construction of Concept 1 would result in additional pavement for the aisle. The parking spaces will be gravel. Currently, runoff from the paved aisles flows to the unpaved median and gravel parking spaces and infiltrates into the soil. Additional areas of infiltration swales would be constructed.

Overall, the CIP projects will result in a net decrease in pavement at the Airport as shown in Table 5-2 and Figure 5.2 at the end of this section. There would be a negligible adverse short-term and negligible beneficial long-term impact to drainage.

5.11.3.8 Visual Environment

There is an existing parking area at the Airport which is visible from the Race Point Beach parking lot and the bike path as shown in photos in Section 4. The new area of parking will be adjacent to the existing parking area and closer to Airport Drive. Landscaping is proposed, which will screen the effect on the various viewer groups. Therefore, there would be a negligible long-term adverse impact to the visual environment.

5.12 Terminal Building Expansion

5.12.1 No Acton

5.12.1.1 Transportation and Traffic

The No Action Alternative would have moderate adverse impacts on Transportation and Traffic because there would be no replacement of passenger space. The No Action Alternative would not address the inefficient and cramped conditions for the commercial airline passengers and general aviation pilots.

5.12.1.2 Wetlands and Wetland Buffer Zones

Under the No Action Alternative there would be no impacts to wetlands because there would be no construction in or adjacent to wetlands and no potential for indirect impacts to adjacent wetlands.

5.12.1.3 Floodplain

Under the No Action Alternative there would be no impacts because there would be no construction in flood zone elevations and therefore no impacts to floodplain.

5.12.1.4 Coastal Dunes

Under the No Action Alternative there would be no impacts to coastal dunes because there would be no construction.

5.12.1.5 Cultural Grasslands

Under the No Action Alternative there would be no impacts because there would be no construction in or adjacent to Cultural Grasslands.

5.12.1.6 Rare Species Habitat

Under the No Action Alternative there would be no impacts because construction would not take place in or adjacent to habitat used by listed species.

5.12.1.7 Drainage / Stormwater Management

Under the No Action Alternative, the drainage system would not change and there would be no impacts to stormwater management.

5.12.1.8 Visual Environment

Under the No Action Alternative there would be no impacts to the visual environment because there would be no construction and the appearance of the building would not change.

5.12.2 Construct Vertical (Within Existing Footprint)

5.12.2.1 Transportation and Traffic

Construction of the Preferred Alternative would have a moderate short-term and long-term beneficial impact on Transportation. The project would replace non-secure passenger area lost to TSA security operations but would not result in an increase in operations at the Airport and would not require the relocation of other operations at the airfield. Additional flights and additional passenger enplanements would not occur as a result of the project.

Consequently there would be a moderate short-term and long-term beneficial impact on Transportation and Traffic.

5.12.2.2 Wetlands and Wetland Buffer Zones

The Preferred Alternative does not involve any work within wetlands. There would be no impact on wetlands.

5.12.2.3 Floodplain

The Preferred Alternative ~~will~~ would result in additional terminal space without a change in the existing building footprint within the floodplain, and therefore no impact on floodplain.

5.12.2.4 Coastal Dunes

The Preferred Alternative does not involve any work within coastal dunes. There would be no impact on coastal dunes.

5.12.2.5 Cultural Grasslands

The Preferred Alternative does not involve any work within or near Cultural Grasslands. There will be no impacts to Cultural Grasslands.

5.12.2.6 Rare Species Habitat

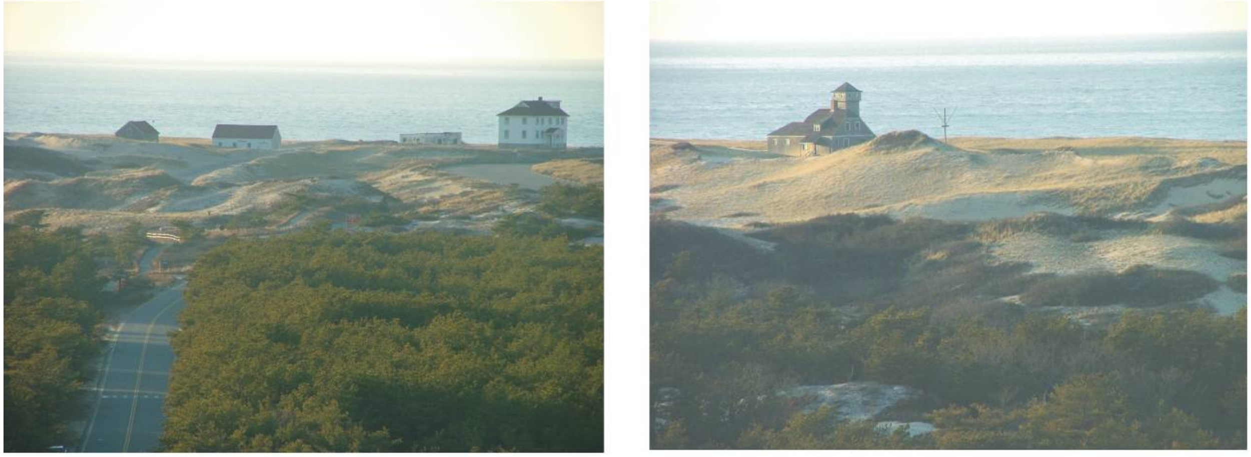
The Preferred Alternative does not involve any work within rare species habitat. Therefore, there would be no impact on rare species habitat.

5.12.2.7 Drainage / Stormwater Management

The Preferred Alternative does not involve any change to the drainage system. Therefore, there would be no impact on drainage or stormwater management.

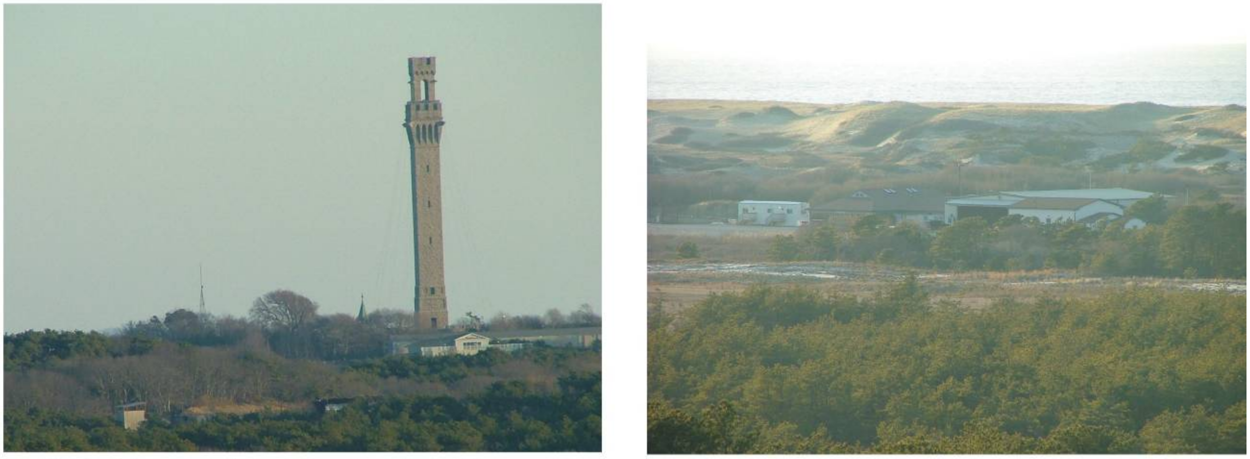
5.12.2.8 Visual Environment

The preferred alternative would add a second floor to the building which would be visible from the Race Pont Beach parking lot, the Visitor Center's observation deck, and portions of the bike path. The Federal Highway Administration (FHWA) guidance on visual design principals was used to evaluate visual impacts. They have found that "objects that are above the observer tend to be more dominant, more detail can be seen at a position near eye level, and objects below the observer tend to blend in." The three most observable positions from visitor areas of the CCNS would be the three selected views, i.e. the Race Point Beach parking lot, the Visitor's Center observation deck, and the bike path. These views are elevated from the terminal and look down on the building, as shown in Photo 5-5.



Race Point Ranger Station

Old Harbor Life-Saving Station Museum



Pilgrim Monument and Provincetown Museum

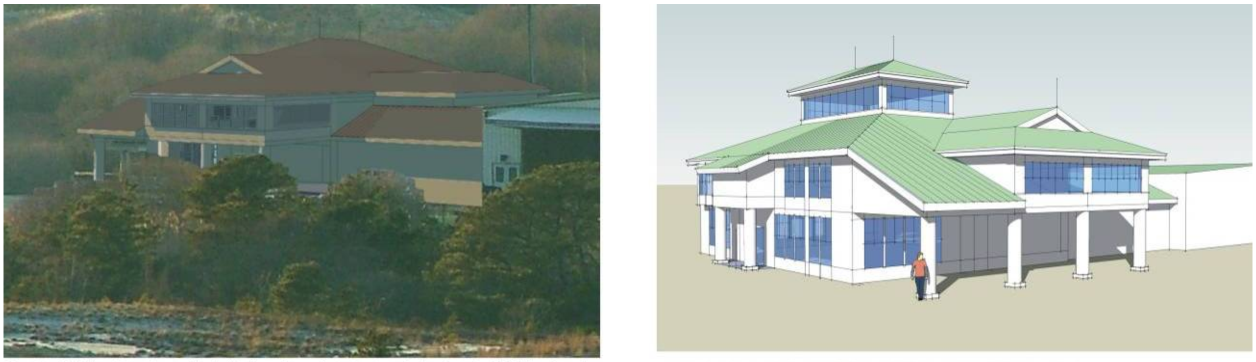
Airport Terminal, Hangar, and TSA Trailer

Photo 5-5 Telescopic views of area buildings from NPS Visitors Center.

The viewscape from the Visitors Center, a NPS viewing area of the surrounding dunes and vegetation, consists of many multiple story buildings. Included in these are the Race Point Ranger Station, the old Harbor Life-Saving Station Museum, the Pilgrim Monument and Provincetown Museum, and the Race Point Light lighthouse. The Race Point Ranger Station, the old Harbor Life-Saving Station Museum, the Pilgrim

Monument and Provincetown Museum, and the Airport Terminal, Hangar, and TSA Trailer are shown from the NPS Visitors Center (telescopic views) in the following viewshed photo compilation, Photo 5-5.

The visual impact would relate to the mass, height, volume, and scale of the building. There are several measures that will be evaluated during the design process to reduce the visual impact of the building. The appearance of building height and mass could be minimized by use of building insets or projections, stepping back the upper floor, varying the height of the roofline, and adding trees and other vegetation. A combination of roof lines with varying roof heights and pitches could be used to add interest to the building and break up the mass of the building. Windows and other architectural features can be used to break up large wall masses. Sample buildings with varying roof heights and building insets and projections are shown in Figure 5.2.

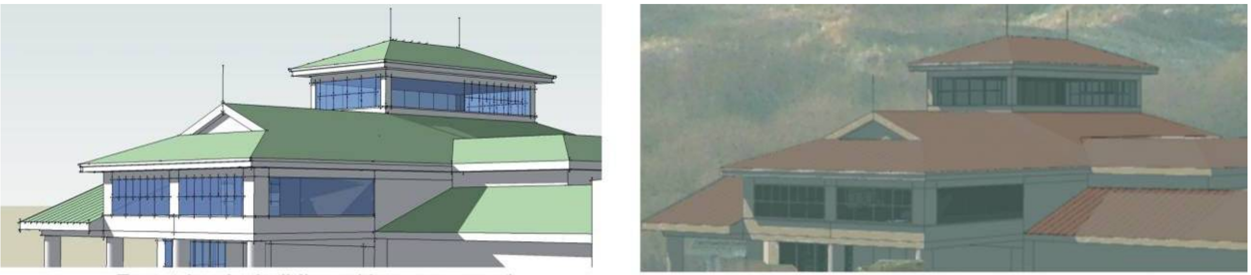


Example of building with varying roof line looking from the southeast (a telescopic view from the NPS Visitor Center)

Example of terminal with building insets and projections looking from the Northwest

Figure 5.2 Examples of varying roof designs and building insets and projections

Roof color can also minimize the negligible adverse visual impact, as shown in the following examples. As taken from the FHWA guidance: "colors that occur most frequently in nature are greens, blues, and browns, and less bright colors tend to produce quiet and restful moods." The design process will also evaluate the most appropriate colors for the building and roof to blend in with the existing landscape as approved by NPS. Two examples of the same style building with different roof colors have been illustrated in Figure 5.3 to note the impact that color could make on the perception of visibility. During the design process, background colors will be refined to aid in visual comparisons.



Example of a building with a green roof

Example of a building with a brown roof

Figure 5.3 Examples of varying roof colors**.**

Landscaping specific to the terminal will be incorporated into the landscaping plan for the parking lot. Landscaping for the parking lot has been proposed that will buffer the visual plane to the terminal building and parking lot from both the bike path and the Race Point Beach parking lot to the extent feasible. Native trees and bushes will be proposed. If determined to be more effective and desired by NPS, landscaping could be implemented outside of the Airport lease area to screen the terminal.

Conceptual building design concepts have been developed to illustrate general issues. Existing and simulated views are provided in the following photos. The existing building is shown in Photos 5-6, 5-8, and 5-10 from three different views. Photos 5-7, 5-9, and 5-11 illustrate the type of visual simulation that will be utilized during the design process. Building height has been considered and efforts to minimize the height have been done at this conceptual level of design. It is anticipated that a 6 to 12 foot increased in the height of the terminal building will be necessary. The formal design process has not been initiated since the terminal project is programmed for FY 2015 and as such a preferred specific vertical design has not been selected. The design process will be carried out in collaboration with Airport staff, the Airport Commission, and NPS staff. Specific design detail will be incorporated into the design process, including details to reduce the perception of scale, mass, and volume of the building. The design process will also evaluate the most appropriate colors for the building and roof, to blend in with the existing landscape. All of the design phases will be reviewed and approved by NPS.

By using the design principals to reduce the scale, volume, and mass perception and by proposing vegetated buffers between the building and visual points of interest, the vertical terminal option would have a minor adverse short-term and negligible adverse long-term impact on the visual environment with mitigation.

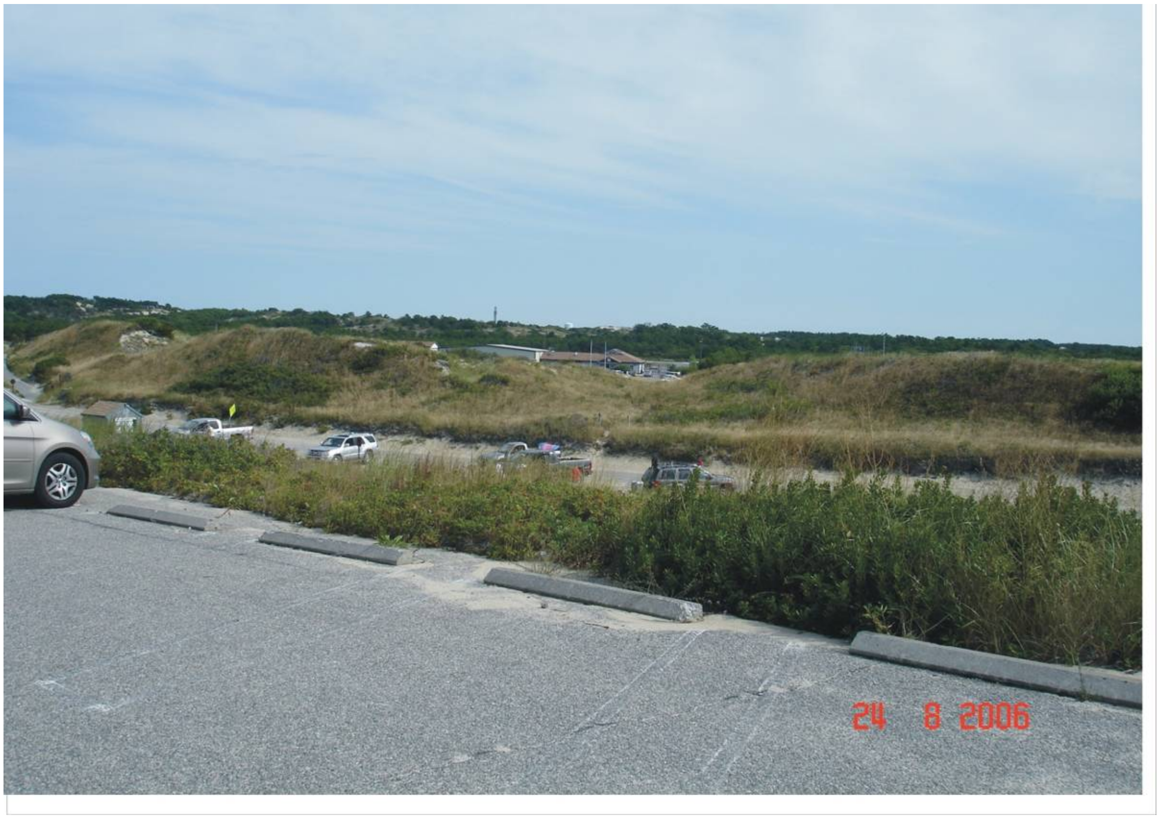


Photo 5-6 Existing view from beach parking lot.

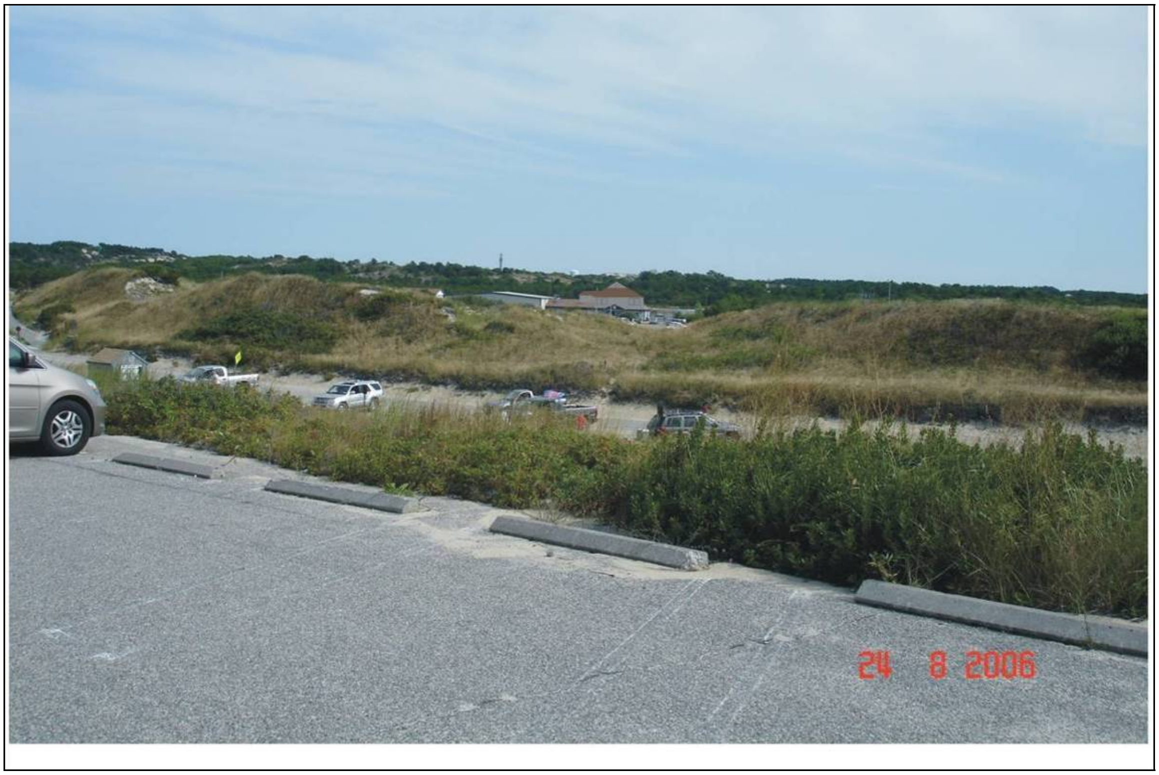


Photo 5-7 An example of how photo simulation can be used to show the visual impact of the vertical design.

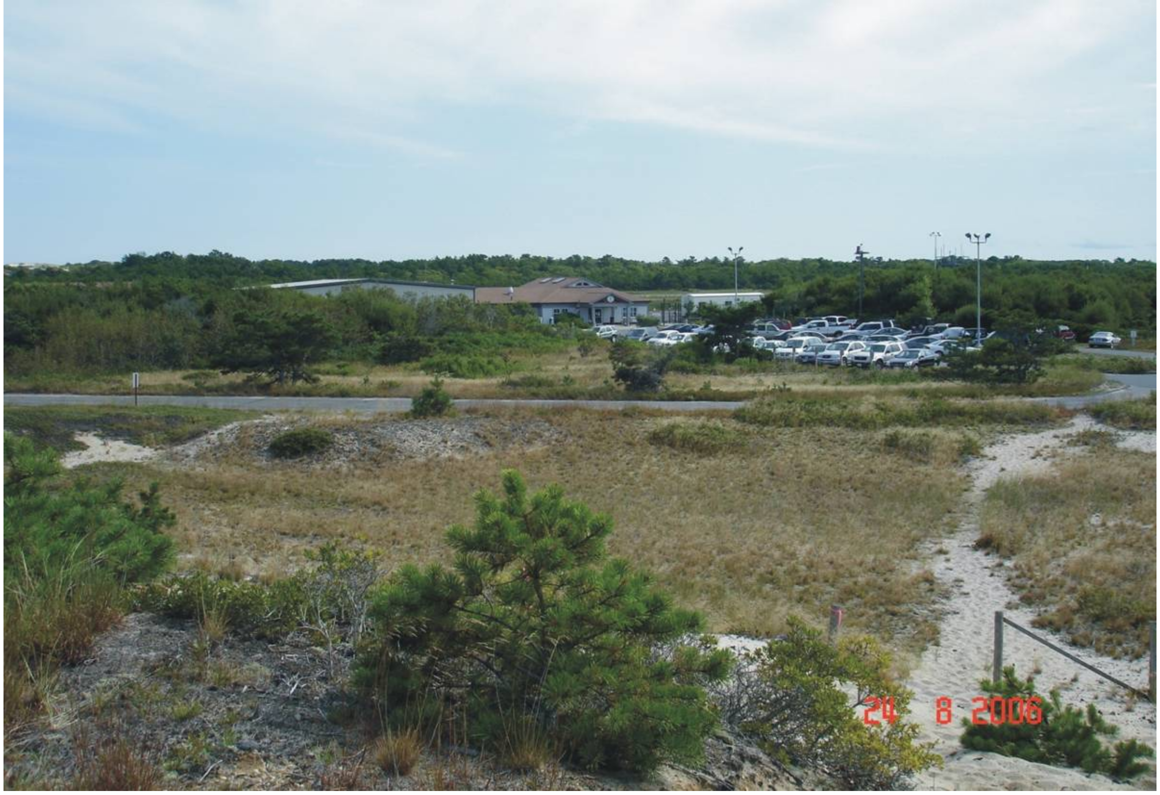

24 8 2006

Photo 5-8 Existing view from bike path.

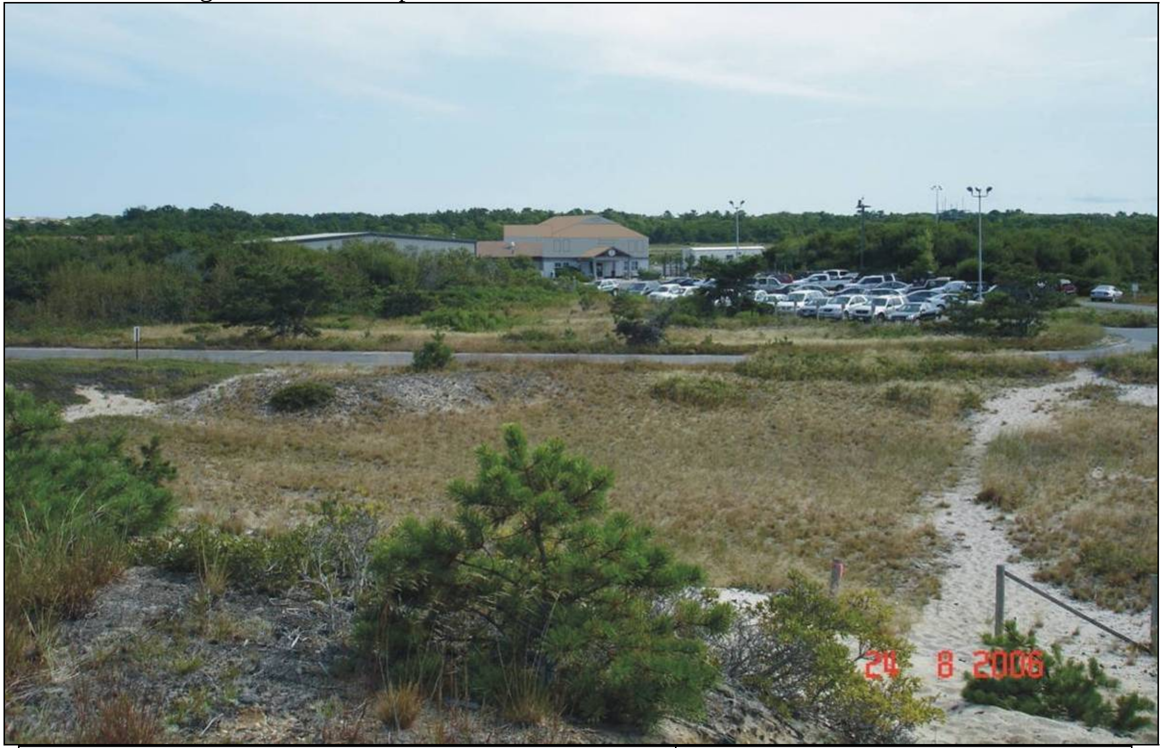

24 8 2006

Photo 5-9 Example of use of photo simulation to assess visual impact.	Roof color and roof lines could be changed.

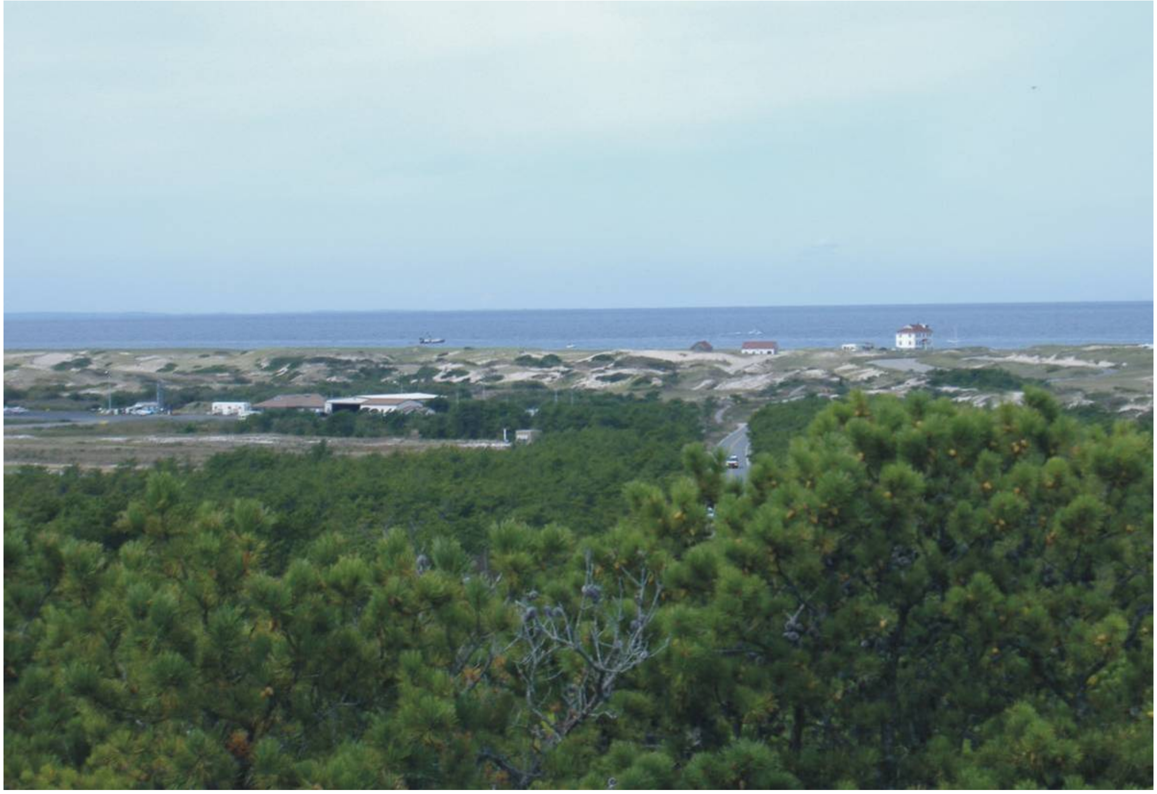


Photo 5-10 Existing view from Visitors' Center Observation Deck.

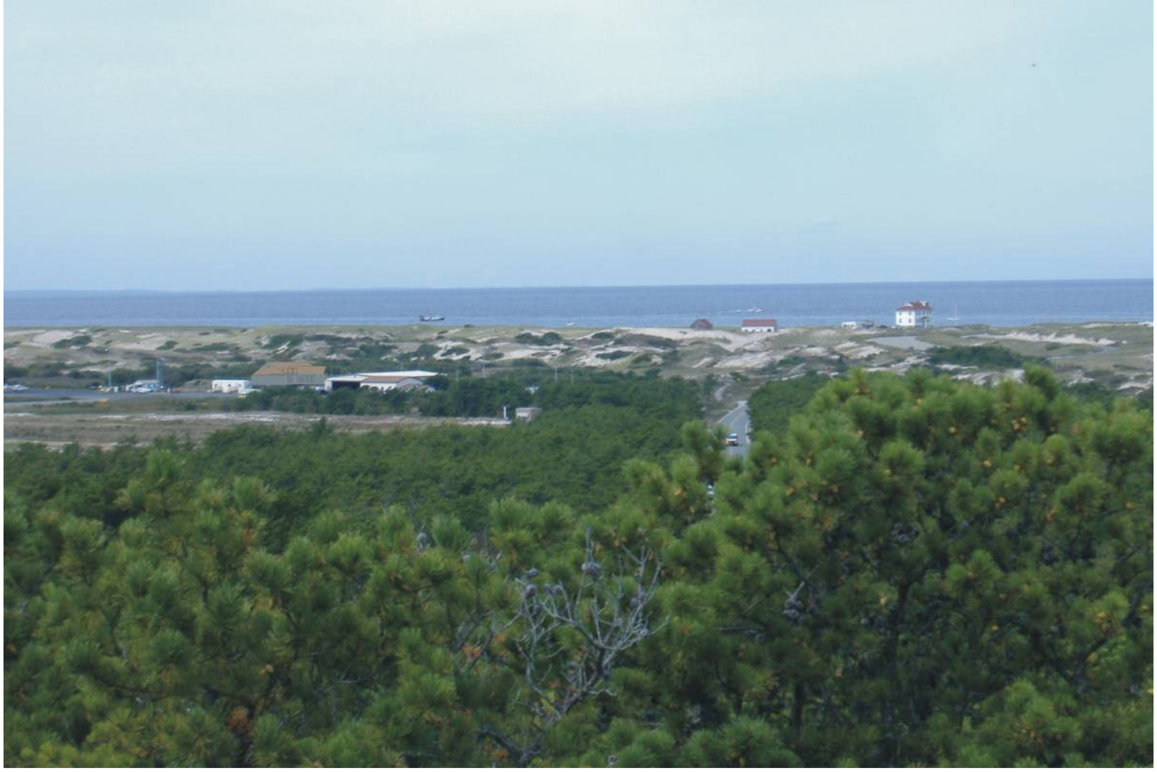


Photo 5-11 Example of use of photo simulation with a proposed second floor added to the Terminal.

5.12.3 Horizontal Alternative (Expand Footprint)

5.12.3.1 Transportation and Traffic

The Horizontal Alternative would require that the TSA trailer be relocated to accommodate the access road to the airfield. It would also impact the auto parking lot by decreasing available spaces. This alternative would have a short and long-term moderate adverse impact on Transportation and Traffic.

5.12.3.2 Wetlands and Wetland Buffer Zones

Approximately 560 SF of the edge of Wetland C would be impacted to accommodate the spacing requirements of the entrance road, and will have a minor adverse short-term and no long-term impact on wetlands. MA DEP has indicated that an alternative for a capacity project that avoids wetland impacts would be necessary in order to qualify for a permit under WQC, given the ORW status of the wetlands and the need for a Variance under the WQC regulations. Therefore, this alternative may not meet the DEP performance standards for a WQC.

5.12.3.3 Floodplain

The Horizontal Concept would impact floodplain to the extent that it would impact~~s~~ wetlands that occur within the floodplain (approximately 560 SF). Wetland mitigation would be provided and would compensate for direct adverse impacts to wetland and floodplain resources. Therefore, this alternative would have a minor adverse short-term and a negligible long-term adverse impact on floodplain upon successful completion of proposed wetland mitigation.

5.12.3.4 Coastal Dunes

The building and road would be on existing developed land. There will be no impacts to coastal dune resources.

5.12.3.5 Cultural Grasslands

Cultural Grasslands would not be impacted. Therefore, there would be no impact on Cultural Grasslands.

5.12.3.6 Rare Species Habitat

The Horizontal Alternative does not involve any work within rare species habitat. Therefore, there would be no impact on rare species habitat.

5.12.3.7 Drainage / Stormwater Management

The Horizontal Alternative would change the drainage system and increase runoff. There would be minor adverse short-term and long-term impacts on drainage and stormwater management once stormwater BMPs were constructed.

5.12.3.8 Visual Environment

The horizontal expansion of the Terminal would be visible from the Race Pont Beach parking lot, the Visitor Center's observation deck, and portions of the bike path. Existing and simulated views are provided in the following photos. There would be a change in the appearance of the existing building. As shown in Photos 5-13, 5-15, and 5-17, the roof extends off the existing roof elevation.

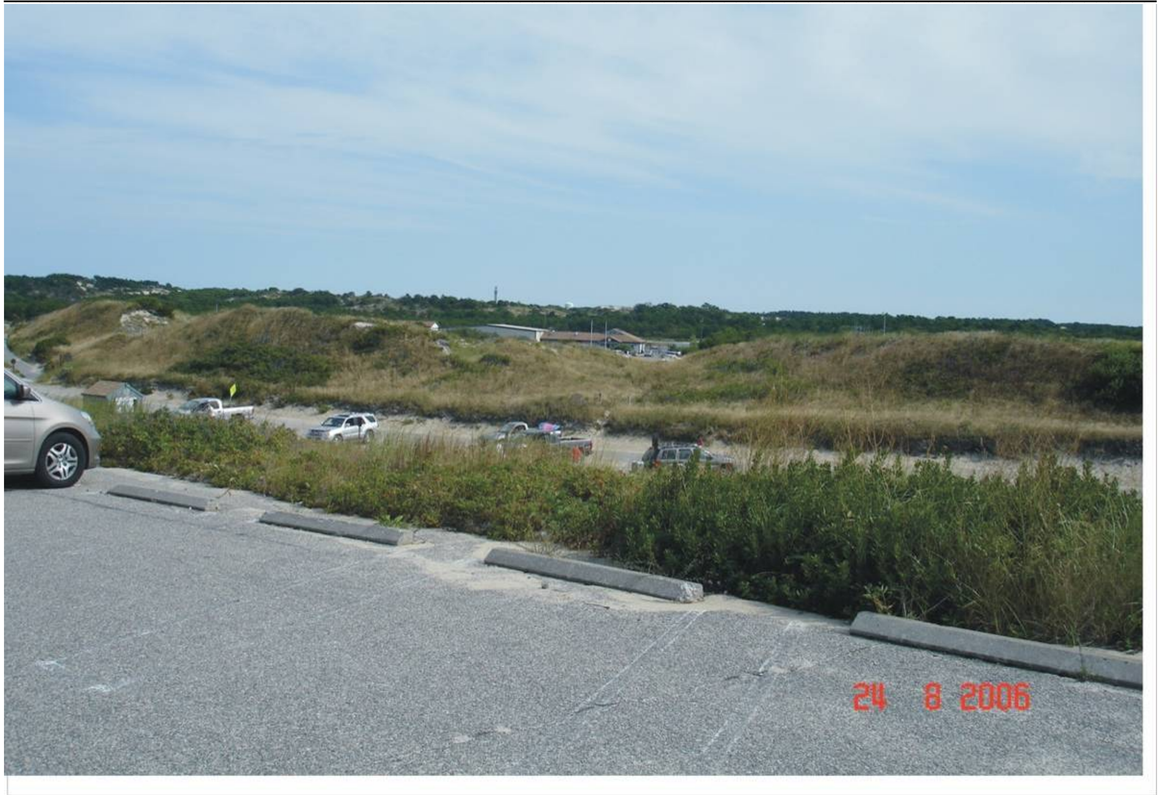


Photo 5-12 Existing view from beach parking lot.

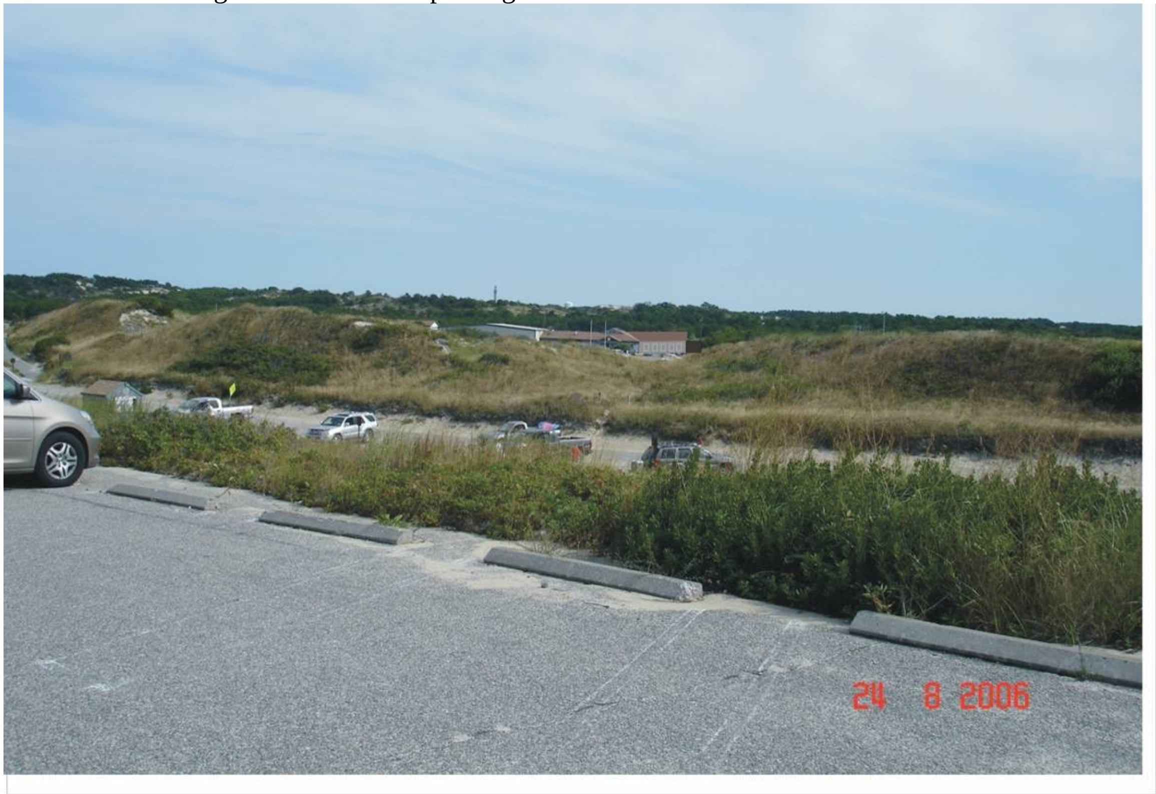


Photo 5-13 Photo simulation of Horizontal Option viewed from beach parking lot.

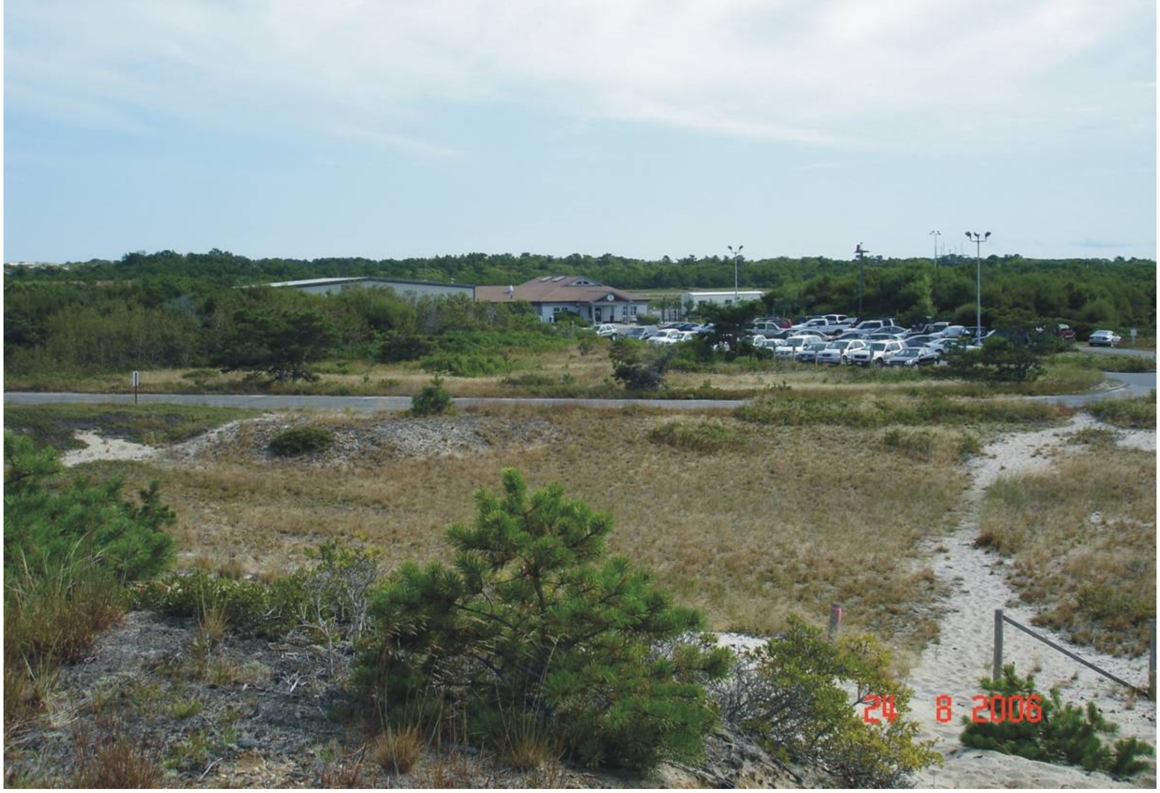


Photo 5-14 Existing view from bike path.

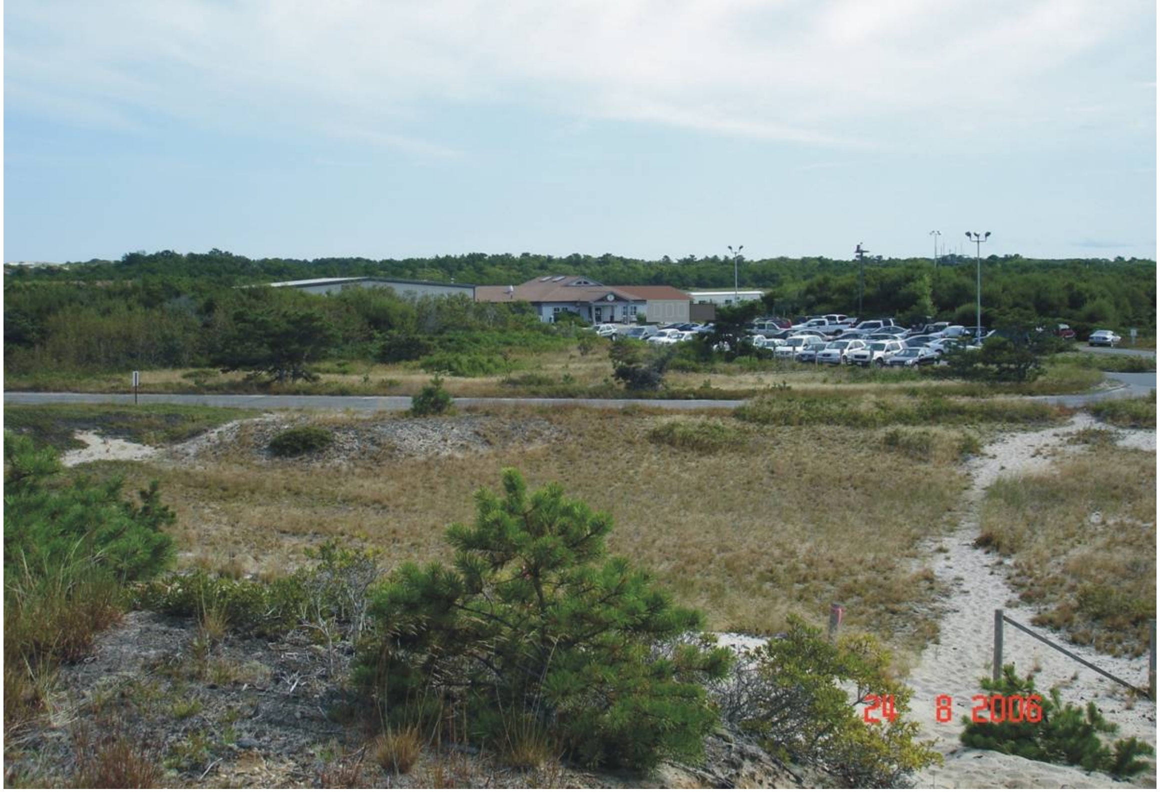


Photo 5-15 Photo simulation of Horizontal Option viewed from bike path.

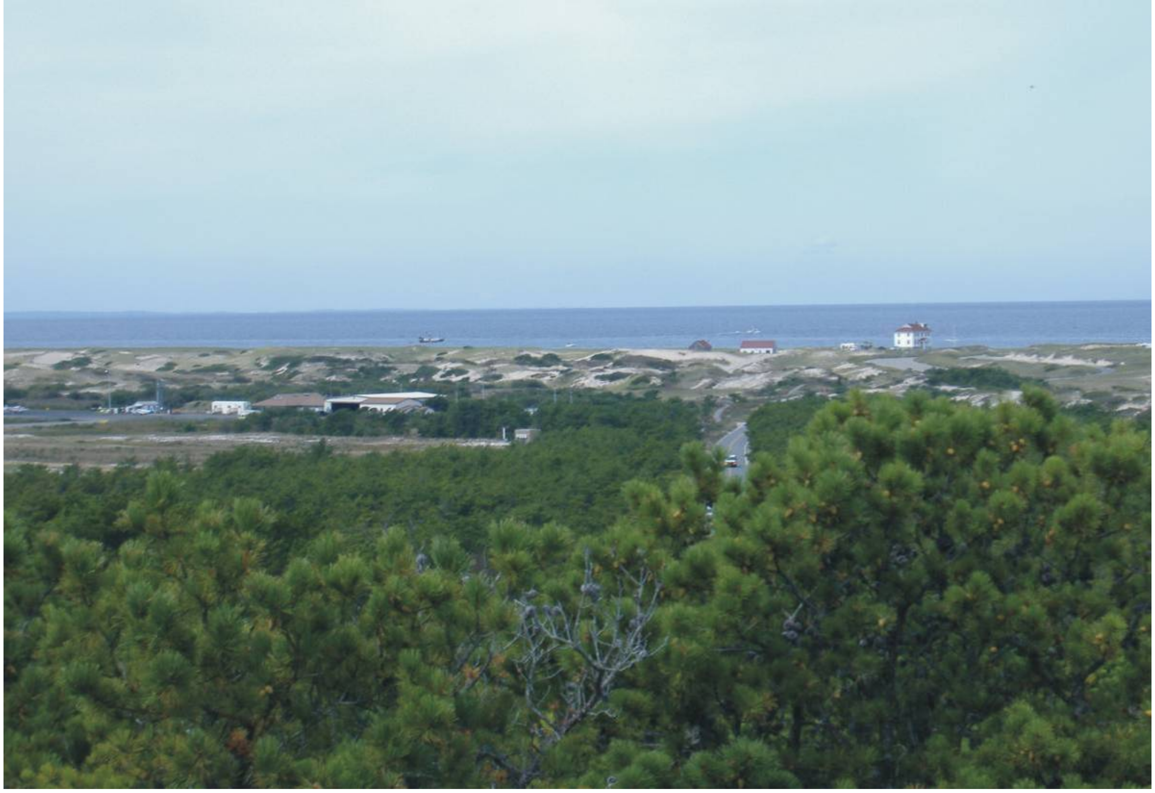


Photo 5-16 Existing view from Visitors' Center Observation Deck.

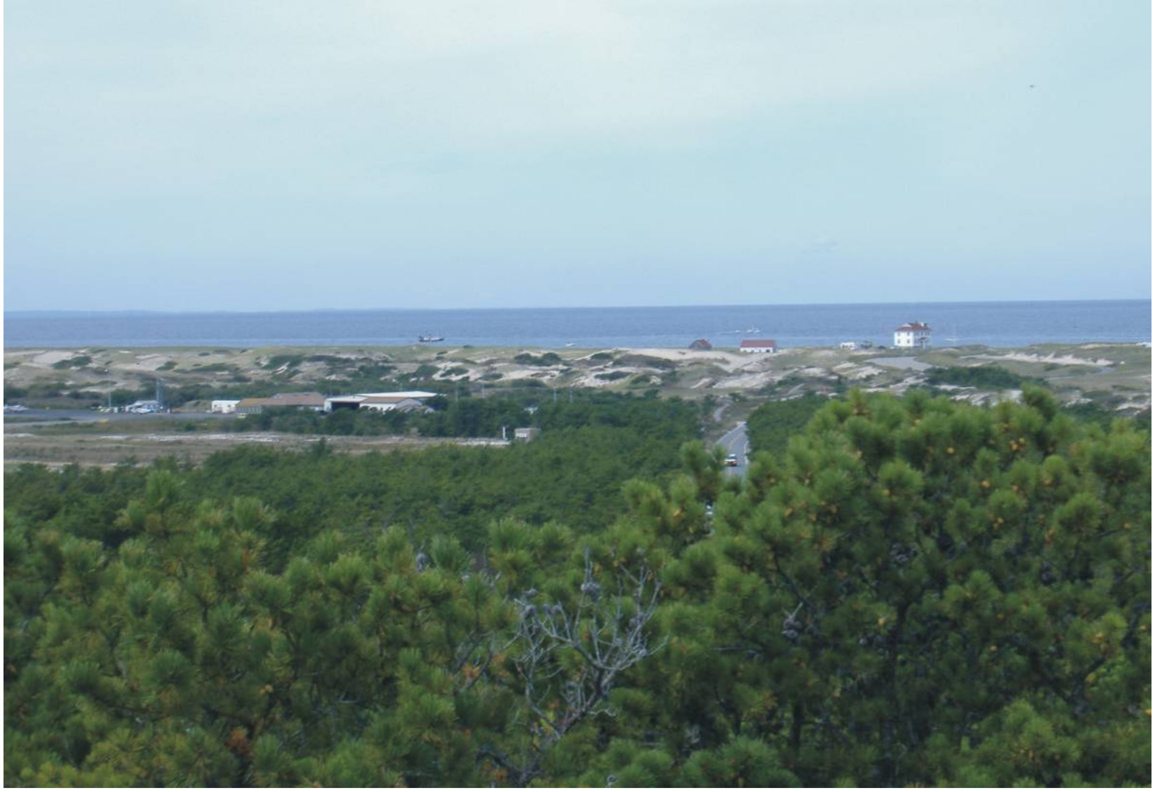


Photo 5-17 Photo simulation of Terminal Horizontal Option viewed from Observation Deck

The horizontal terminal option would maintain the existing building height. However, maintaining the same height might make the Airport facilities appear to be industrial buildings with matching roof lines. Incorporating design principals to reduce the appearance of the building wall lengths and roof line, along with vegetated buffers between the building and visual points of interest, the horizontal terminal option would have a minor adverse short-term and negligible adverse long-term impact on the visual environment.

5.13 Turf Apron

5.13.1 No Action

5.13.1.1 Transportation and Traffic

The No Action Alternative would have a moderate adverse impact on Transportation and Traffic in terms of Airport operations. During peak times, airplanes would be parked on the mid connector TW and this TW would not be available. There would be a moderate long-term adverse impact to Transportation and Traffic.

5.13.1.2 Wetlands and Wetland Buffer Zones

Under the No Action Alternative there would be no impacts to wetlands because there would be no construction adjacent to or within wetlands.

5.13.1.3 Floodplain

Under the No Action Alternative there would be no impacts because there would be no construction within flood zone elevations and therefore no impacts to floodplain.

5.13.1.4 Coastal Dunes

Under the No Action Alternative there would be no impacts to coastal dunes because there would be no construction adjacent to or within coastal dune resources.

5.13.1.5 Cultural Grasslands

Under the No Action Alternative there would be no impacts to Cultural Grasslands because there would be no construction.

5.13.1.6 Rare Species Habitat

Under the No Action Alternative there would be no impacts to rare species habitat because there would be no construction within resources used by listed species.

5.13.1.7 Drainage / Stormwater Management

Under the No Action Alternative, the drainage system would not change and, therefore, there would be no impact to drainage.

5.13.1.8 Visual Environment

Under the No Action Alternative, there would be no change to the Visual Environment because the project would not be built.

5.13.2 Full Dimension

5.13.2.1 Transportation and Traffic

Construction of the Full Dimension alternative would have a moderate beneficial impact on Transportation and Traffic. The project would provide turf parking for an existing demand but would not result in an increase in operations at the Airport. Additional flights and additional passenger enplanements would not occur as a result of the project. There would be a moderate long-term beneficial impact on Transportation and Traffic.

5.13.2.2 Wetlands and Wetland Buffer Zones

The Full Dimension alternative minimizes wetland impacts with steepened slopes, but there would be an impact of approximately 1,250 SF in Wetland C. The comment letter on the NPC/Draft EIR/EA submitted by DEP indicated that this project, like the other capacity projects would require a Variance from the WQC regulations, but would be unlikely to qualify for a Variance. This alternative could be deemed to have moderate short-term and minor long-term adverse impacts to wetlands.

5.13.2.3 Floodplain

The full dimension alternative involves impacts to wetlands, and will therefore also affect the floodplain associated with the wetland. There would be a negligible adverse short-term and no long-term impact on floodplain, with proposed on-site wetland mitigation combined with the previously implemented mitigation through the Hatches Harbor Project.

5.13.2.4 Coastal Dunes

There are no coastal dunes within the project impact area and there would be no impacts to coastal dune resources with this alternative.

5.13.2.5 Cultural Grasslands

Additional Turf Apron area would be constructed within an area of existing Cultural Grasslands. The project would modify the structure of the underlying soils within the area of managed grassland. The grassland vegetation will be restored. The new turf apron would be maintained as Cultural Grasslands.

Therefore, there would be a minor adverse short-term and negligible adverse long-term impact to Cultural Grasslands.

5.13.2.6 Rare Species Habitat

Expansion of the turf apron will impact a portion of Cultural Grassland. Construction activities within Cultural Grasslands will be scheduled according to NHESP agency avoidance dates (i.e., outside of the active breeding and nesting period for this species) which will avoid impacts to Vesper Sparrow.

In order to avoid direct impacts to the Eastern Box Turtle, pre-construction “turtle sweeps” within the limit of work will be conducted as part of the Turtle Protection Plan discussed in Section 7. Work will be conducted in the fall.

The newly created turf apron will be managed similarly to other areas of managed Cultural Grasslands throughout the Airport operational area.

Adverse impacts to rare species will be minor for the short-term and negligible for the long-term because of the proposed mitigation measures.

5.13.2.7 Drainage / Stormwater Management

The project does not involve any changes to paved surfaces and there will be no impact to drainage and stormwater management.

5.13.2.8 Visual Environment

The project would modify the structure of the underlying soils within the area of managed grassland and would not be a new element in the visual environment. The visual appearance of the turf apron will be the same as the existing managed grassland. As a result, there would be no impacts to the Visual Environment.

5.13.3 Reduced Dimension (Preferred Alternative)

5.13.3.1 Transportation and Traffic

Construction of the Preferred Alternative would have a negligible short-term adverse impact and a moderate beneficial long-term impact on Transportation and Traffic. The project would provide turf parking for an existing demand during peak periods but would not result in an increase in operations at the Airport. Additional flights and additional passenger enplanements would not occur as a result of the project. There would be no increase in vehicular traffic as a result of the project.

5.13.3.2 Wetlands and Wetland Buffer Zones

The project will not impact wetlands. There would be no impacts to wetlands.

5.13.3.3 Floodplain

The Preferred Alternative would not alter the flood storage capacity of the floodplain, and would have only negligible adverse impacts during construction, with no long-term adverse impacts to this resource.

5.13.3.4 Coastal Dunes

There are no coastal dunes within the project impact area. Therefore, there would be no impacts to coastal dune resources.

5.13.3.5 Cultural Grasslands

Additional Turf Apron area will be constructed within an area of existing Cultural Grassland. The project would modify the structure of the underlying soils within the area of managed grassland. The grassland vegetation would be restored. The new Turf Apron would be maintained as Cultural Grassland.

As such, there would be negligible adverse short-term impacts and no long-term impacts to Cultural Grasslands.

5.13.3.6 Rare Species Habitat

Expansion of the turf apron would impact a portion of Cultural Grassland that serves as potential Vesper Sparrow habitat. Construction activities within Cultural Grasslands will be scheduled consistent with NHESP agency avoidance dates which will avoid impacts to Vesper Sparrow.

In order to avoid direct impacts to the Eastern Box Turtle, pre-construction "turtle sweeps" within the limit of work will be conducted as part of the Turtle Protection Plan discussed in Section 7. Work will be conducted consistent with specific NHESP agency avoidance dates.

The newly created Turf Apron will be managed similarly to other areas of managed Cultural Grasslands throughout the airport operational area. Adverse impacts to rare species will be negligible for the short-term and no impacts for the long-term because of the proposed mitigation measures.

5.13.3.7 Drainage / Stormwater Management

The project does not involve any changes to paved surfaces and will not impact drainage and stormwater management.

5.13.3.8 Visual Environment

The project would modify the structure of the underlying soils within the area of managed grassland and would not be a new element in the visual environment. The visual appearance of the turf apron will be the same as the existing managed grassland and would not impact the Visual Environment.

5.14 Evaluation of Impairment of Park (CCNS) Resources or Values

Introduction
As suggested by NPS CCNS staff, Impairment of Park Resources is discussed for all the CIP project elements in aggregate rather than by individual project element. For the purposes of evaluating the potential for Impairment of Park Resources and values, impact topics include:

- Natural Resources (wetlands, wetland buffers, floodplains, coastal dunes, wildlife habitat),
- Massachusetts state-listed Rare Species and their sustaining habitat, and
- Visual Impacts.

In addition to natural resources, the NPS is the steward of many of America's most important cultural resources. These resources are categorized as archaeological resources, cultural landscapes, ethnographic resources, historic and prehistoric structures, and museum collections. Cultural resources may also include historic designed landscapes, historic vernacular landscapes, ethnographic landscapes, and historic sites, natural resources with traditional cultural meaning and value to associated peoples and other resource users.

The Park's Cultural Resources were not included as an impact topic for this discussion because it has been established that there are no historical or archaeological structures within the lands occupied by the Airport (See MHC letter dated April 2, 2007, and commentary from NPS staff December 15, 2008, provided in Section 10.1). Additionally, as discussed in Section 1.4, there are no Museum Objects, Ethnographic, or Cultural Resources.

Background
In 1961, the U.S. Congress established the Cape Cod National Seashore (CCNS) as a unit of the National Park Service (NPS), recognizing that the outer portion of Cape Cod, or Outer Cape, was "nationally significant for ecological, historical, and cultural reasons. Given the unique circumstances under which the CCNS also encompasses the Provincetown Municipal Airport, which operates within the Park under a Special Use Permit, the CCNS General Management Plan (NPS 1998; Access and Transportation section), identifies the Airport as "an important transportation facility for the Outer Cape [that] … is part of the national aviation system." One

of the Goals stated in the CCNS General Management Plan is to "Provide access to public use areas that is environmentally sensitive, safe, and consistent with the desired experience and the intermodal planning initiatives; [and] ensure that the transportation system does not detract from the Cape Cod character." Although the proposed CIP projects are primarily designed to address safety and security deficiencies at the Airport, while meeting current demands for Airport use, and will be confined to the lands specifically set aside for Airport operations, the CCNS General Management Plan recognizes that through the Airport Commission's long-term master planning and environmental analysis, public safety upgrades could potentially affect the resources and values provided by the CCNS.

The CCNS General Management Plan requires that park resources and values to be considered when reviewing proposed projects at the Airport include "opportunities for quiet contemplation, reasonable access to NPS facilities, and the preservation of vegetation, wildlife, wetlands, dunes, views, and cultural resources." The following provides a discussion of the proposed CIP Projects in the context of the potential for Impairment of these Park Resources and values with regard to direct and indirect impacts associated with each alternative of the proposed (preferred) action.

NPS Management Policies define Impairment of Park Resources as an impact that: "…in the professional judgment of the responsible NPS manager, would harm the integrity of the park resources or values, including those that would otherwise be present for the enjoyment of those resources or values. Whether an impact meets this definition depends on the particular resources that would be affected, the severity, duration, and timing of the impact, the direct and indirect effects of the impact, and the cumulative effects of the impact in question with other impacts."

The laws establishing the NPS and its authority give NPS management the discretion to allow impacts to park resources and values when necessary and appropriate to fulfill the purposes of a park, as long as the impact does not constitute an impairment of the affected resources and values. Not all impacts would constitute impairment. As described in the NPS Management Policies, an impact would more likely constitute impairment to the extent that it would impact a resource or value whose conservation is:

- Necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park;
- Key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park; [and, or]
- Identified as a goal in the Seashore's General Management Plan or other park planning documents.

Conversely, an impact would be less likely to result in impairment if it is an unavoidable result of an action that is necessary to preserve or restore the integrity of vital park resources, which cannot be reasonably mitigated.

Natural Resources

Wetland Resources

Impacts to the Park's wetland resources resulting from the combined Preferred Alternatives for the CIP projects affecting wetland resources at the Airport include moderate, direct, short-term impacts to wetland ecosystems in the immediate vicinity of the Airport facilities to allow for the taxiway and access road safety improvements to occur. Specifically, this would involve reconstruction and/or realignment of the taxiways, installation or modification of access roadways to Airport navigational aids, and installation of the proposed safety/security fence. With the exception of the safety/security fence, these projects would not be new elements at the Airport or within the CCNS. Even the safety/security fence is not a new concept to the CCNS, where the Airport, for safety reasons, has worked with the CCNS to install multiple Navigational devices that require obstacle clearing, including the airspace surrounding the airport.

Wetland impacts associated with the CIP projects would not adversely affect the natural integrity of the CCNS wetland resources or detract from the enjoyment of those resources or values. Further, these impacts will be minimized (offset) and subsequently mitigated upon successful wetland restoration, along with the previous mitigation under the Hatches Harbor Project as discussed in Section 7.0. Construction timing and implementation of applicable BMPs and other measures will further minimize impacts to the values of the wetland resources at the Airport and within the CCNS. Minor indirect, long-term impacts will occur within wetlands for the installation and maintenance of the safety/security fence as eight-foot wide swaths along the proposed fence would be managed in a low-growing plant community rather than a forested or taller scrub-shrub community. Consequently, there would be no impairment of wetland resources or values as a result of the implementation of the Preferred Alternatives when mitigation is also implemented.

Coastal Floodplains

The entire Airport and its immediate environs fall within the coastal floodplain (ranging from elevation 10 to 11 feet above mean sea level). CIP projects with the potential to directly affect the coastal floodplain include the reconstruction and/or realignment of the taxiways, installation of the service access roadways, and improvements to the MALSF access roadway where fill is proposed; other CIP projects would have negligible impacts to the coastal floodplain. Negligible short-term, direct, adverse impacts will occur to the coastal flood zone at the Airport and within the CCNS as a result of implementing the Airport CIP projects during construction. These impacts would not harm the integrity of the Park's resources by increasing the extent of flood prone areas or otherwise diminishing the ability of this natural resource to function to provide flood storage by temporarily retaining and slowly releasing coastal waters during and following a flooding event at the Airport or within the surrounding CCNS lands, or prevent storm damage to inland areas upon successful mitigation within the floodplain. Further, short-term impacts to the coastal floodplain will be restored upon successful wetland mitigation as described above and in Section 7.0. Therefore, implementation of the Preferred Alternatives would not impair floodplain resources within the CCNS.

Coastal Dune Ecosystems, Buffers, and Wildlife Habitat

The Province Lands within the CCNS, where the Airport is located, are comprised of a vast ecosystem of primary and secondary dunes. Coastal dunes within the Airport lease area range from barely elevated sandy patches situated among freshwater wetlands (e.g., interdunal swales) to tall, sparsely vegetated shifting dune ridges to the north, and to extensively vegetated dune ridges to the south. Given the proximity of the natural resources at the Airport, coastal dunes also frequently serve as natural buffers to the system of freshwater wetlands found there, and along with the wetland system, provides a unique wildlife habitat.

Minor long-term direct and indirect impacts to coastal dune ecosystems and the associated wildlife habitat would occur with the implementation of the Preferred Alternatives for the combined CIP projects (taxiway realignments, construction of service access roadways (AWOS and LES), expansion of auto parking (Phases 1 and 2), and installation of the safety/security fence). However, these impacts would not detract from the vast extent of dunes within the Province Lands at the CCNS, nor would they harm the integrity of the Park's resources or values.

The Preferred Alternative for the proposed safety/security fence would partially enclose 113 acres of the Airport lease area. The majority of the area consists of airport infrastructure (paved runway and taxiways, buildings, parking areas, navigational aids, and managed safety areas). Implementation of the combined CIP projects would result in negligible to minor, direct and indirect short-term and long-term adverse impacts to local populations of certain wildlife species whose habitat would be interrupted by the existence of a fence.

Impacts to coastal dune ecosystems at the Airport will be mitigated in part through the conversion of existing impervious surfaces and mowed grasslands to coastal dune habitat, and implementation of habitat management to control invasive species currently documented within the coastal dune ecosystem at the Airport. Mitigation efforts, including design specifications, construction timing, and implementation of applicable BMPs, will further minimize impacts to the coastal dune ecosystem at the Airport and within the CCNS. As with the wetland resources, minor indirect, long-term impacts will occur within the coastal dunes for the installation and maintenance of the safety/security fence as an eight-foot wide swath along the proposed fence would be managed in a low-growing plant community rather than a forested or taller shrub community. However, installation of the fence is an unavoidable result of a necessary action to maintain a safe and secure Airport within the CCNS, and for visitors to the CCNS that would utilize the Airport. Considered in relation to the total dune ecosystem in the Province Lands, combined with the proposed dune restoration and mitigation measures, there would be no impairment of the coastal dune ecosystem or its habitat functions and values as a result of the implementation of the Preferred Alternatives.

State-listed Rare Species and Their Sustaining Habitat

Implementation of the combined CIP projects at the Airport has the potential to affect the habitats of three of the four Massachusetts state-listed rare species documented at the Airport: Eastern Spadefoot Toad, Eastern Box Turtle, and Vesper Sparrow, with no adverse impacts anticipated to the fourth documented species, Broom Crowberry). The mosaic habitat of the coastal dune ecosystem interspersed with freshwater interdunal swales within the Province Lands constitutes a unique habitat that supports these species. Potential impacts to the habitat for the Eastern Spadefoot Toad have been the focus of the Massachusetts Natural Heritage and Endangered Species Program (NHESP), and prime and potential breeding habitat for this state-Threatened species has been further assessed at the Airport in the context of the Preferred Alternatives.

Minor short-term, direct, adverse impacts of potential breeding habitat for the Eastern Spadefoot Toad will occur with the taxiway improvement projects. Negligible short-term, direct adverse impacts and negligible long-term indirect adverse impacts would occur within prime breeding habitat for Eastern Spadefoot Toad for the installation and maintenance of portions of the proposed safety/security fence (see Figure 4.7). In addition, implementation of the Preferred Alternatives for the combined CIP projects would have the potential for minor, short-term and long-term, direct adverse impacts to the non-breeding habitat for this species.

Implementation of the Preferred Alternatives for the combined CIP projects would result in minor short-term, direct adverse impacts within wetlands, grasslands, and coastal dune ecosystems which serve as potential breeding and non-breeding habitat for the Eastern Box Turtle.

Negligible, short-term, direct adverse impacts will occur within managed grasslands (Cultural Grasslands) which serve as potential habitat for Vesper Sparrow (and Broom Crowberry, although none of the Preferred Alternatives would have a direct impact on the known population of this species at the Airport) with the implementation of the taxiway realignment and relocation projects as well as the installation of the taxiway lighting and expansion of the turf apron. Moderate long-term direct beneficial impacts to this species may occur through habitat maintenance of the grasslands and a species-sensitive mowing schedule.

With the implementation of mitigation measures, the resulting impacts to these species would be considered short-term and negligible, off-set by habitat restoration (including wetland restoration), location-specific fence alignment siting, design measures for the fence (wildlife tunnels), and construction timing measures designed to protect this unique habitat.

Considered in relation to the total wetland and dune ecosystem in the Province Lands, combined with the mitigation measures proposed, impacts to state-listed rare species habitat would be considered near negligible, long-term, adverse impacts. Consequently, implementation of the CIP projects would not result in an impairment of rare species habitat resources or values.

Visual Impacts

The proposed CIP projects designed to improve safety standards at the Airport has the potential to impact the visual environment at the Airport. Specifically, installation of the proposed safety/security fencing and taxiway edge lighting, and expansion of the auto parking lot and the Terminal building could result in visual impacts for Park visitors. The remaining CIP projects would not be new elements or expansion of existing elements at the Airport and would not diminish the natural or cultural integrity of the CCNS, and in fact, would result in minor to moderate, long-term, direct, and beneficial impacts to visitor use, safety, and experience for those visitors patronizing the Airport as a means of accessing the Park.

The Airport may be seen by Park visitors (or viewer groups) utilizing the bike trail system near the Airport, those driving past the Airport toward Race Point Beach, or those visiting the lookout tower at the Province Lands Visitor Center (“birds eye views”), where minor, long-term, direct adverse impacts to visual aspects of the Park may be experienced by those visitors upon the implementation of the Preferred Alternatives for these CIP projects.

Visual impacts will be off-set by native landscape screening plantings proposed around the parking lot, as well as design modifications to the Terminal to ensure that it meets the local design and character of other buildings at the Park and minimizes impacts to the visual environment at the CCNS. Lighting along the taxiway does not constitute a new element at the Airport, but rather an improvement of the existing runway lighting. The taxiway lighting is an unavoidable consequence of meeting airport safety requirements.

The proposed fence will match the design of the existing segments of safety/security fencing currently visible along the bike path along Race Point Road. The new sections of fencing will be installed within the vicinity of the managed airfield, and will be black coated vinyl, which minimizes the effect on the various viewer groups. The aspects that contribute to the significance of the CCNS would not be diminished because there would be no significant change in the visual environment and no change in recreational activity for the CCNS visitors since the fence will secure the operational area of the Airport that is closed to unauthorized persons.

5.15 Cumulative Impacts

Cumulative Impacts are defined as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonable foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such actions" (40 CFR 1508.7). An assessment of cumulative impacts is a requirement of NEPA. Cumulative impacts are typically considered for all alternatives (preferred or other alternatives that were considered but not dismissed), including the no action alternative.

This discussion takes into account the combined CIP projects discussed above relative to their potential impacts on the following resources: Wetland Resources (wetlands, floodplains, and associated habitats), Coastal Dune Ecosystems (including buffers and associated habitats), State-listed Rare Species and associated Priority Habitats, and Public Use and Access and Safety for Park Users. The action alternatives focus primarily on the impacts of the Preferred Alternatives for the combined CIP projects in conjunction with the preferred and/or already implemented projects in the nearby vicinity of the Province Lands. A discussion of the differences in combined impacts follows, should one of the other alternatives (i.e., not selected as the preferred) be implemented. The effects of the No Action alternatives are also discussed.

Projects Evaluated for Cumulative Impacts

At the recommendation of NPS staff, in this FEIR/EA the discussion of cumulative impacts is presented in the context of the combined effects of the various CIP projects, as well as the impacts resulting from other projects in the vicinity of the Province Lands within the CCNS. Other projects and programs considered for this analysis were identified through consultation with the CCNS staff and published reports. Projects with similar impacts were identified and include three transportation projects and the installation of an electrical supply in the Province Lands. Projects occurring outside the geographical vicinity of the Airport CIP projects are not considered. Likewise, the proposal for the development of a multi-use trail in conjunction with the rehabilitation of a 2-mile stretch of Moors Road in Provincetown, which is planned for the area, has not yet been fully developed, and therefore has not been considered in this analysis. Four other projects in the general vicinity of the Airport include:

1. Electrical Supply for Herring Cove Beach Facilities;
2. Province Lands Bike Trail Renovations;
3. Herring Cove Intersection Project; and
4. Certain project elements from Repair and Rehabilitate Four Roads and Parking Lots (Herring Cove).

A brief description of these four projects and their identified impacts for their Preferred Alternatives is presented upfront by way of background information. The cumulative impacts of these projects on the specific impact topics are discussed below in conjunction with the combined proposed CIP projects at the Airport. The effects on the resources are first considered for the No Action alternatives, followed by the effects of the combined Preferred Alternatives. Where more than one Build alternative has been identified for a CIP project (and not previously dismissed), a discussion of cumulative impacts follows, providing a range of impacts these non-preferred alternatives would have on the resources if implemented.

1. Electrical Supply for Herring Cove Beach Facilities

Preferred Alternative: According to the Electrical Supply for Herring Cove Beach Facilities EA (NPS 2008), the Preferred Alternative would entail the installation of a combined solar- and wind-powered electrical supply sited on the roof of the Herring Cove bathhouse with a separate land-based wind-turbine located nearby. Under the preferred alternative, there would be potential minor adverse impacts to birds and bats, including state- and federally-listed rare species. Impacts to wildlife derived from the operations of the wind turbine will be minimized through a two-phased adaptive management plan. Installation during the off-season would have negligible impacts on public use and access, and impacts to visitor safety would be temporary (short-term) and minor. Long-term minor visual impacts from the presence of the land-based wind turbine were recognized as either adverse (interruption of the existing views) or beneficial (educational); adverse impacts would be minimized by building the turbine in scale with the existing environment.

No Action: Under the No Action alternative for this project, there would be no impacts to the natural resources (soils, vegetation, and wildlife or air quality) or to the Park's cultural resources. As the project is intended to address a recurring issue with faulty electricity that is an inconvenience to visitors using the bathhouse and restroom facilities and limiting visitor access, there is a potential for moderate to major impacts on public use of the Herring Cove facilities, which is a potential long-term adverse indirect consequence of the No Action alternative for this project.

2. Province Lands Bike Trail Renovations

Preferred Alternative: The Preferred Alternative for the Province Lands Bike Trail Renovations project (realignment, repair, and 10-foot widening of the existing bike trail system) would impact wetlands, coastal upland ecosystems, and coastal dune ecosystems in the project area. Minor short-term direct adverse impacts to wetland resources within a foot of the renovated trails during construction of the preferred alternative is 0.14 acres, with no long-term direct adverse impacts to wetlands occurring. Minor long-term, direct adverse impacts of up to 4.33 acres of upland and coastal dune ecosystems, which provide potential non-breeding habitat for a state-threatened rare species, Eastern Spadefoot Toad, distributed along the 7.3 miles of bike trail were identified. Adverse impacts would be partially off-set by restoration of portions of the existing trail which would be abandoned, and construction and timing measures designed to protect this habitat. With the implementation of mitigation measures, the resulting impacts were considered short-term and negligible or minor. Moderate, long-term direct and beneficial impacts to visitor (and staff) use, safety, and experience are anticipated from the resultant safer bike trail system. Minor, short-term and long-term, direct adverse impacts to the habitat for the Eastern Spadefoot Toad would result from the preferred alternative, with the potential for additional minor, short-term direct adverse impacts to breeding habitat for this species. Potential minor, short-term and long-term, direct adverse impacts would also occur if other protected species are discovered within the project areas of the realignments.

No Action: The No Action alternative would not result in impacts to the Park's natural resources (wetlands or coastal dune and upland ecosystems). However, minor long-term direct adverse impacts to visitor and staff safety, use and experience would result from the continued existence of unsafe conditions and deteriorated segments of the bike trail.

3. Herring Cove Intersection

Preferred alternative: The work associated with this project primarily includes reconstruction at the intersection of Route 6 and Province Lands Road, including the addition of an exit from South Herring Cove Beach onto Route 6. In addition, the sealing of the pavement on Race Point Road was included. Although within the buffer zone to Shank Painter Pond, all work occurred within the roadway and resulted in a net reduction in impervious surface and moderate, long-term, direct, and beneficial impacts to visitor safety, use and experience resulting from the improvements to the park resources for visitor enjoyment.

No Action: The No Action alternative would result in no adverse impacts to natural resources. However, minor long-term direct adverse impacts to visitor and staff safety, use and experience would result from the continued existence of the inadequate and unsafe conditions at this intersection.

4. Repair and Rehabilitate Four Roads and Parking Lots (Herring Cove)

Preferred Alternative: Portions of this project, which involved the repair and rehabilitation of four roads (Marconi Beach Road, Marconi Site Road, Old Dewline Road, and Moors Road) and modifications to the Herring Cove Parking Lot access, would result in impact to Park Resources. The Preferred Alternative identified in the Value Analysis Study for this project (NPS 2006) would result in minor, long-term direct adverse impacts to coastal dune ecosystems. These project elements would also result in moderate, long-term, direct, and beneficial impacts to visitor safety, use and experience resulting from the modifications to the Herring Cover Parking Lot Access. No impacts occurred within sensitive or state-listed rare plant or animal habitat, and no work was proposed within wetlands or within 100 feet of wetlands (buffer zone).

No Action: The No Action alternative would result in no impacts to natural resources. However, minor long-term direct adverse impacts to visitor and staff safety, use and experience would result from the continued existence of the existing inadequate and unsafe entrance and exists to the Herring Cove parking lot.

Cumulative Impact to Wetland Resources

No Action

No impacts would occur to wetland resources if the No Action alternatives for the CIP projects were implemented. However, there is potential for minor, long-term, direct and indirect, adverse impacts to occur within wetlands and surrounding habitats if safety measures such as surfacing of deteriorating and crumbling surfaces are not completed and the water quality of adjacent wetlands were to become impacted through stormwater runoff carrying debris and contaminants from the deteriorated surfaces. When considered with the No Action alternatives for other projects in the Province Lands, the No Action alternatives would result in no additional adverse impacts to the natural resources (soils, vegetation, and wildlife, or air quality) beyond those impacts that may occur under existing conditions.

Preferred Alternatives

Impacts to the Park's natural resources resulting from the combined preferred alternatives for the CIP projects at the Airport include moderate, direct, short-term impacts to wetland ecosystems in the immediate vicinity of the Airport facilities to allow for the taxiway and access road safety improvements to occur. These impacts (1.35 acres) will be minimized (offset) through a reduction in impervious surfaces and subsequent wetland restoration, which overall would result in an increase in the amount of freshwater wetlands occurring at the Airport, when combined with the implementation of the Hatches Harbor Project over the long-term (1.70 acres) upon successful restoration of previously disturbed wetlands. In addition to the Hatches Harbor Project, additional protective measures to be implemented include construction sequencing and timing, implementation of applicable BMPs, and enhancement measures as outlined in Section 7.0. Moderate temporary wetland impacts will also occur due to temporal loss during construction and prior to full grow-in of the restored wetland areas. Additional minor to moderate indirect, long-term impacts will occur within wetlands (0.59 acres) for the installation of the safety/security fence as 8-foot wide swaths along the proposed fence would be managed in a low-growing plant community rather than a forested or taller scrub-shrub community, as well as minor to moderate temporary impacts to wetlands during construction.

Reconstruction and/or realignment of the taxiways, installation of the access roadways, and installation of the proposed safety/security fence combined with the impacts to wetland resources associated with the bike trail renovations would result in direct and indirect, moderate, short-term cumulative impacts on wetland resources. Total short-term direct adverse impacts to the wetland ecosystems are approximately 1.49 acres.

Implementation of the preferred alternatives associated with the Airport CIP projects would have only minor short-term, direct adverse impacts to the to the wetland resources analyzed in this document even when considered cumulatively with other projects in the vicinity. Proposed wetland mitigation, including the previously implemented restoration project in Hatches Harbor, would off-set the direct and indirect impacts to wetlands in less impervious surfaces and subsequently greater wetland areas within the Park upon successful wetland restoration. Consequently, there would be no cumulative adverse impact to wetland resources or values as a result of the implementation of the preferred alternatives when mitigation is also implemented.

Considerations of Non-Preferred Alternatives for CIP Projects – Wetland Resources
Impacts to the Park's natural resources resulting from the combined other alternatives (some of which would include the preferred alternatives) for the CIP projects at the Airport include moderate, direct, short-term adverse impacts to wetland ecosystems in the immediate vicinity of the Airport facilities to allow for the taxiway and access road safety improvements to occur. These impacts (approximately 1.35 acres, 1.33 acres of which are accounted for by the Preferred Alternatives where no other alternatives were considered) are comparable to the wetland impacts under the preferred alternative. However, there would be greater impacts associated with implementation of the horizontal alternative to the Terminal Expansion project (an additional ~560 SF) and the two fence alternatives (Concept 1 at the lease line and Concept 4) with moderate, indirect and direct adverse wetland impacts totaling an additional 3.4 acres and 1.13 acres, respectively, with additional undetermined alterations occurring within tidally influenced areas of the BVW associated with the enclosure of the MALSF system, which would occur with both non-preferred fence alternatives. Thus, cumulative impacts to the Park's natural resources would range from approximately 2.71 to 4.88 acres (not including indirect impacts resulting from enclosure of tidally-influenced wetlands). These additional wetland impacts would be partially off-set through a reduction in impervious surfaces and on-site wetland restoration and including the previously implemented restoration off-site project in Hatches Harbor, although at a slightly lower ratio than with the Preferred Alternatives. Construction timing and implementation of applicable BMPs and measures outlined in Section 7.0 would further reduce impacts. Moderate temporary adverse wetland impacts will also occur due to temporal loss during construction and prior to full grow-in of the restored wetland areas.

Cumulative Impact to Floodplains

No Action
No impacts would occur within floodplains if the No Action alternatives for the CIP projects were implemented. Other projects in the vicinity of the Province Lands have not reported impacts to floodplains.

Preferred Alternatives
Implementation of the combined CIP projects would cumulatively result in negligible to minor, short-term, direct, adverse impacts within the coastal flood zone as a result of implementing the Airport CIP projects during construction, specifically for the reconstruction and/or realignment of the taxiways, installation of the access roadways, and installation of the proposed safety/security fence (i.e., projects that would result in introduced fill material). The temporary loss of flood storage capacity will be compensated by the proposed wetland restoration and through the mitigation derived from the implementation of the Hatches Harbor Project. No long-term adverse impacts on the flood storage capacity relative to the ability of these low-lying areas to temporarily retain and release coastal waters during and following a flooding event at the Airport or within the surrounding CCNS lands are anticipated. Therefore, implementation of the Preferred Alternatives will have a negligible short-term direct adverse impact on floodplains. Proposed restoration activities will mitigate for impacts to floodplains, such that there will be negligible long-term impacts upon successful implementation of

wetland restoration activities. Other projects in the vicinity of the Province Lands have not reported impacts to floodplains. Consequently, there would be no cumulative adverse impact to floodplain resources as a result of the implementation of the combined preferred alternatives for the projects.

Considerations of Non-Preferred Alternatives for CIP Projects – Floodplains
Other projects in the vicinity of the Province Lands have not reported impacts to floodplains, and therefore implementation of non-preferred alternatives for the combined CIP projects would be limited to impacts associated with the Airport. Negligible, short-term, direct, adverse impacts will occur within coastal floodplains as a result of implementing the Airport CIP projects during construction, specifically for the reconstruction and/or realignment of the of the taxiways, installation of the access roadways, and installation of the proposed safety/security fence. The only projects with identified non-preferred alternatives that could impact floodplains are the terminal expansion project, the service access roads, the fence and the auto parking project. Implementation of the auto parking Concept 1, the horizontal option for the Terminal, and the full dimension of the turf apron would result in additional wetland (and therefore floodplain) fill ranging from 0.1 to 0.15 acres. Presumably, these impacts would also result in minor, short- and long-term adverse impacts to the flood storage capacity of the coastal floodplains. These additional impacts to the flood storage capacity would be compensated by the proposed wetland restoration (upon successful implementation) and further enhanced through the Hatches Harbor restoration project, resulting in negligible long-term adverse impacts on the flood storage capacity relative to the ability of these low-lying areas to temporarily retain and release coastal waters during and following a flooding event at the Airport or within the surrounding CCNS lands. However, implementation of either non-preferred alternative for the fence (Concept 1 or Concept 4) would result in undetermined short-and long-term, direct and indirect adverse impacts within tidally-influenced areas of the wetland system due to the complete enclosure of the MASLF system.

Cumulative Impact to Coastal Dune Ecosystems, Buffers, and Wildlife Habitat

No Action
No impacts would occur to coastal dune ecosystems, buffers, or general wildlife habitat if the No Action alternatives for the CIP projects were implemented. When considered with the No Action alternatives for other projects in the Province Lands, the No Action alternatives would result in no adverse impacts to these resources.

Preferred Alternatives
Minor, long-term direct, adverse impacts to coastal dune ecosystems and the associated wildlife habitat would occur to a total of 1.05 acres through the implementation of the Preferred Alternatives for the combined CIP projects. Combined with the minor, long-term direct adverse impacts of up to 2.63 acres and minor short-term direct adverse impacts of up to 3.68 acres of dune ecosystem habitat associated with the preferred alternatives for the bike trail renovations, and the minor impacts to coastal dune and upland ecosystem habitats associated with the installation of the wind turbine at the Herring Cove facilities, cumulative long-term, direct, adverse impacts to dune ecosystem impacts resulting from these projects would be approximately 3.96 acres (including mitigation efforts to restore dune and upland ecosystems). Impacts to coastal dune ecosystems at the Airport will be mitigated in part (0.69 acres) through the conversion of existing impervious surfaces and mowed grasslands to coastal dune habitat, and implementation of habitat management to control invasive species.

The fence would partially enclose 113 acres of the Airport lease area. This may result in negligible to minor, direct and indirect short-term and long-term adverse impacts to local populations of certain wildlife species whose habitat would be interrupted by the existence of a fence. While the preferred alternative for the fence will partially enclose approximately 113 acres at the Airport, it is important to note that the area within the fence consists of airport infrastructure (paved runway and taxiways, buildings, parking areas, navigational aids, and managed safety areas). The purpose of installing the fence is to restrict movement of large animals, such as deer and coyote, as well as non-authorized personnel from the Airport operation areas. However, the design mitigation measures and construction timing and phasing mitigation measures will reduce the impacts to resources and the species that use these resources. Mitigation efforts, including design specifications and construction timing will minimize these impacts. When considered in relation to the total dune ecosystem in the Province Lands, combined with the dune restoration and mitigation measures proposed, these would be considered only minor, long-term, adverse impacts to the dune ecosystem even when considered cumulatively with other projects.

Consequently, there would be no cumulative adverse impact to dune ecosystem resources or values as a result of the implementation of the combined preferred alternatives for the projects.

Considerations of Non-Preferred Alternatives for CIP Projects – Coastal Dune Ecosystems

Implementation of Non-Preferred alternatives for the following CIP projects have the potential for minor, long-term direct, adverse impacts to coastal dune ecosystems, their habitats, and their buffers. These include the service access roads to the AWOS and LES facilities, the auto parking area, and installation of a safety/security fence. In addition, potential additional long-term adverse impacts to these resources could also occur indirectly from the implementation of the horizontal expansion alternative for the terminal project, as the horizontal concept would result in a loss of existing parking, where the parking expansion would have adverse impacts to coastal dunes. A minor reduction of 0.06 acres of coastal dune ecosystem impacts would occur with the implementation of the alternative access path to the LES (LES Concept 6), as the alternative to bring the roadway off of the existing CCNS bike trail would not require paving. However, implementation of auto parking Concept 1 would result in 0.23 acres of additional impacts to this resource.

Direct and indirect impacts to coastal dune ecosystems at the Airport would increase substantially with the increased length of fencing (24,200 LF for Concept 1 and 15,400 LF for Concept 4). In addition, the proposed alternative fence Concepts 1 and 4 would fully enclose a greater amount of habitat (317 acres and 200 acres, respectively), resulting in minor to moderate, direct, and indirect long-term adverse impacts to local wildlife populations. Coastal dune impacts associated with these non-preferred CIP projects would be mitigated in part through the conversion of existing impervious surfaces to coastal dune habitat, and implementation of habitat management to control invasive species, but would result in far greater net loss of coastal dune habitat as compared to the Preferred Alternatives. These impacts, combined with the minor, long-term direct adverse impacts of up to 2.63 acres and minor short-term direct adverse impacts of up to 3.68 acres of dune ecosystem habitat associated with the preferred alternatives for the bike trail renovations, and the minor impacts to coastal dune and upland ecosystem habitats associated with the installation of the wind turbine at the Herring Cove facilities (3.96 acres combined), would result in additional cumulative long-term, direct and indirect adverse impacts to dune ecosystem impacts, considering and including mitigation efforts to restore dune and upland ecosystems. Considered in relation to the total dune ecosystem in the Province Lands, combined with the dune restoration and mitigation measures proposed, these would be considered only minor, long-term, adverse impacts to the dune ecosystem even when considered cumulatively with other projects.

Cumulative Impact to State-Listed Rare Species (including habitat Coastal Dunes and Wildlife Habitat)

No Action
No impacts would occur to state-listed rare species or their habitat if the No Action alternatives for the CIP projects were implemented. Other projects in the Province Lands have not identified impacts to state-listed rare species, therefore the No Action alternatives would result in no cumulative adverse impacts to rare species.

Preferred Alternatives
Total short-term and long-term direct adverse impacts to the non-breeding habitat (coastal dune ecosystems) for the CIP projects and other projects in the vicinity of the Airport are approximately 5.38 acres. Implementation of the combined CIP projects at the Airport has the potential to affect the habitats of three of the four state-listed rare species documented at the Airport: Eastern Spadefoot Toad, Eastern Box Turtle, and Vesper Sparrow (with no adverse impacts anticipated to the fourth species, Broom Crowberry). Minor short-term, direct, adverse impacts of up to 1.3 acres of potential breeding habitat for the Eastern Spadefoot Toad will occur with the taxiway improvement projects and the AWOS access road (direct fill). Negligible, short-term, direct adverse impacts and negligible, long-term indirect adverse impacts would occur within prime breeding habitat for Eastern Spadefoot Toad for the installation and maintenance of portions of the proposed safety/security fence (see Figure 4.7), and further minimized by field adjustments prior to construction. Minor, short-term and long-term, direct adverse impacts to the non-breeding habitat for the Eastern Spadefoot Toad would result from the preferred alternatives. Adverse impacts will be partially off-set by habitat restoration (including wetland restoration), location-specific fence alignment siting, design measures (wildlife tunnels), and construction and timing measures designed to protect this habitat.

Implementation of the preferred alternatives for the combined CIP projects will result in minor short-term, direct adverse impacts of up to 3.04 acres within wetlands, grasslands, and coastal dune ecosystems which serve as potential breeding and non-breeding habitat for the Eastern Box Turtle. With the implementation of mitigation measures, the resulting impacts would be considered short-term and negligible, off-set by habitat restoration, design measures for the fence (wildlife tunnels), and construction and timing measures designed to protect this habitat.

Moderate, short-term, direct adverse impacts will occur within managed grasslands (Cultural Grasslands) which serve as habitat for Vesper Sparrow with the implementation of the taxiway realignment and relocation projects, as well as the installation of the taxiway lighting and expansion of the turf apron. A net loss of approximately 0.54 acres of grassland will result in moderate, long-term, direct, adverse impacts to this species' habitat. Moderate, long-term, direct, and beneficial impacts to this species will occur through habitat maintenance of the grasslands and a species-sensitive mowing schedule.

When considered in relation to the total wetland and dune ecosystem in the Province Lands, combined with the wetland, dune, and grassland mitigation measures proposed, impacts to State-listed rare species habitat would be considered negligible, long-term, adverse impacts even when considered cumulatively with other projects.

Other projects in the Province Lands have not identified impacts to state-listed rare species. Consequently, there would be no cumulative adverse impact to rare species habitat resources or values as a result of the implementation of the combined preferred alternatives for the projects.

Considerations of Non-Preferred Alternatives for CIP Projects – State Listed Rare Species
Implementation of Non-Preferred alternatives for the following CIP projects have the potential for minor, long-term direct, adverse impacts to state-listed rare species and their habitats. These include the service access roads to the LES facility (Eastern Box Turtle habitat and non-breeding habitat for Eastern Spadefoot Toad), the auto parking area (Eastern Box Turtle habitat and both breeding and non-breeding Eastern Spadefoot Toad habitats), the horizontal concept for the Terminal building (breeding habitat for Eastern Spadefoot Toad), the full dimension of the terminal apron, and alternative Concepts 1 and 4 for the installation of a safety/security fence (Eastern Box Turtle habitat and both breeding and non-breeding Eastern Spadefoot Toad habitats). A minor reduction of 0.06 acres of coastal dune ecosystem impacts that would occur with the implementation of the alternative access path to the LES (LES Concept 6) is the only impact that would be reduced with the implementation of the non-preferred CIP alternatives. Implementation of auto parking Concept 1 would result in 0.23 acres of additional impacts to Eastern Box Turtle habitat and non-breeding Eastern Spadefoot habitat, with an additional 0.11 acres of potential breeding habitat for the Eastern Spadefoot.

Direct and indirect impacts to rare species habitat at the Airport would increase substantially with the increased length of fencing, the subsequent impacts associated with creating and maintaining a perimeter roadway (Concept 1), and long-term maintenance (adverse impacts) by potentially up to an additional 1.13 to 1.56 acres of freshwater wetlands (Concept 4 and Concept 1, respectively), and up to an additional 4.8 acres of long-term adverse coastal dune habitat along the fence. If implemented, these non-preferred CIP projects have the potential to substantially increase adverse impacts to state-listed rare species within the Province Lands. These impacts would be only partially mitigated through the conversion of existing impervious surfaces to wetland and coastal dune habitat (upon successful implementation), as well as implementation of habitat management to control invasive species.

Cumulative Impact to Public Use and Access and Safety (transportation and Section 4(f) properties and visual impacts)

No Action
The No Action alternative would result in continued minor to moderate short-term and long-term, adverse impacts to the safety and welfare of visitor use, safety, and experience for those visitors patronizing the Airport as a means of accessing the Park. Visitors will also continue to experience minor, long-term, direct, and indirect adverse impacts associated with the inconveniences of the crowded parking lot and terminal space for Park visitors who are Airport patrons. However, there would be no impacts to the visual experience of Park visitors.

When considered in combination with other projects in the Province Lands, existing impacts, due to unsafe and inconvenient conditions at the Airport, would continue to contribute to the minor to moderate short-term direct and indirect adverse impacts on Park visitors and Park staff with respect to their safety and park experience. In addition, the No Action alternative would continue to contribute to the potential moderate to major long-term adverse direct and indirect adverse impacts with respect to the public use of facilities (both safety and Park experience) within the Province Lands.

Preferred Alternatives
Proposed CIP projects designed to improve safety standards at the Provincetown Municipal Airport will result in minor to moderate, long-term, direct, and beneficial impacts to visitor use, safety, and experience for those visitors patronizing the Airport as a means of accessing the Park. Visitors may also experience minor, long-

term, direct, and beneficial impacts from the capacity-related CIP projects, which may alleviate certain inconveniences of crowded parking lot and terminal space for Park visitors who are Airport patrons. Minor, long-term, direct adverse impacts to visual aspects of the Park may be experienced by visitors utilizing the bike trail system near the Airport or those visiting the lookout tower at the Province Lands Visitor Center, where implementation of the preferred alternatives for the proposed parking lot and terminal expansion projects will result in minor changes to the views. Visual impacts will be off-set by native landscape screening plantings proposed around the parking lot and design modifications to the terminal to ensure that it meets the local design and character of other buildings at the Park and minimizes impacts to the visual environment at the Park.

Consequently, there would be no cumulative adverse impact to Public Use and Access and Safety as a result of the implementation of the combined preferred alternatives for the projects.

Considerations of Non-Preferred Alternatives for CIP Projects – Public Use and Access and Safety
Implementation of non-preferred alternatives considered for the proposed CIP projects, specifically the service access roads for the AWOS and the LES facilities and installation of the perimeter safety/security fence, and expansion to the terminal, auto parking area, and the turf apron, would also improve safety standards, and contribute to the minor to moderate, long-term, direct, and beneficial impacts to visitor use and experience for those visitors to the Province Lands, although the non-preferred alternative to the proposed LES would not be considered as safe for Airport operations. The horizontal expansion of the Airport terminal would result in negligible, long-term, direct, adverse impacts to the visual environment at the Airport.

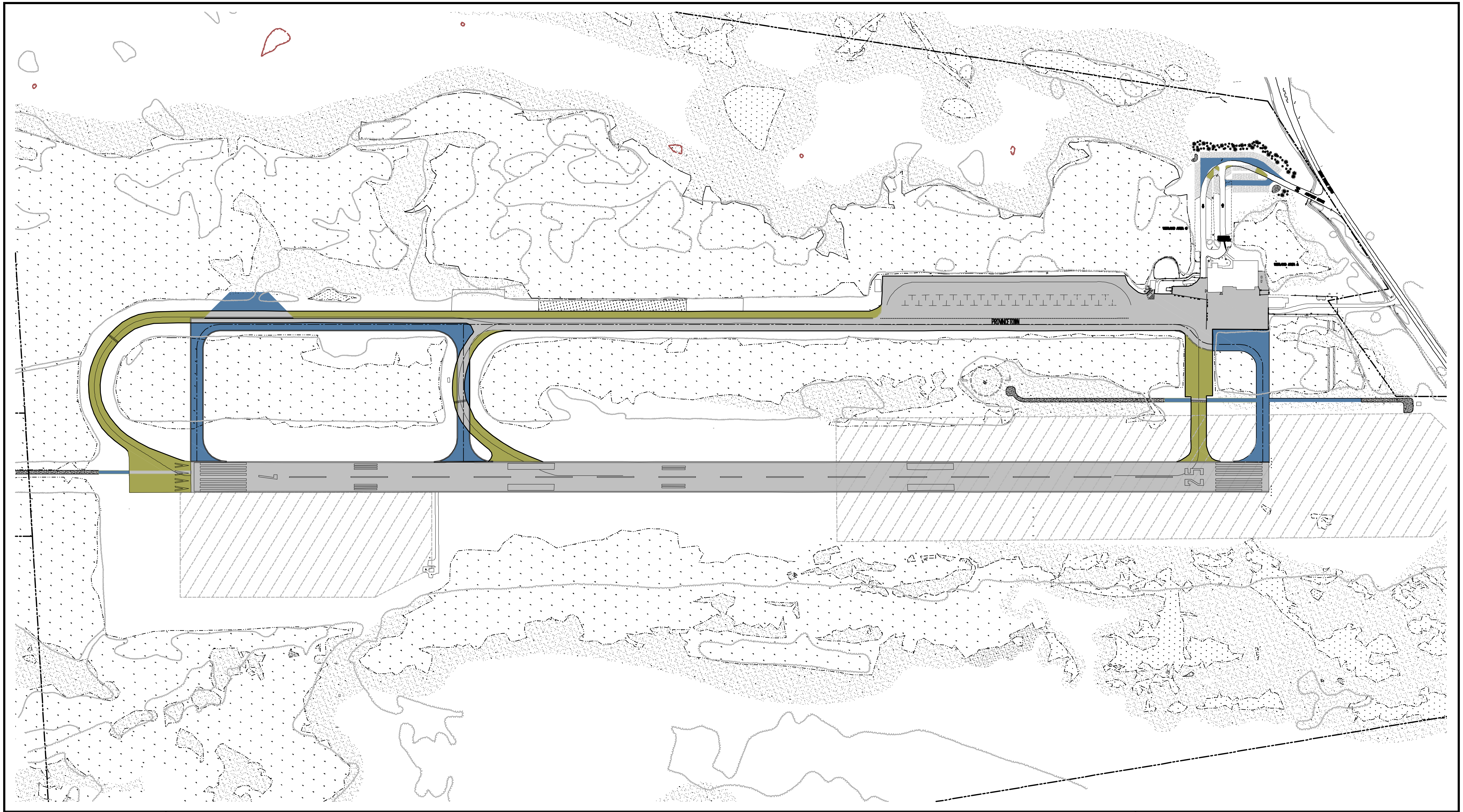
Table 5-2 Changes in Impervious Surface		
Projects with Pavement Elements	**Net Change**	**Stormwater Management**
1. Westerly TW System Improvements	-1,294	Infiltration Grass filter
2. Relocate East End TW	+2,814	Infiltration Grass filter
3.Reconstruct Terminal Apron	0	Closed system with filters; Sediment outlet trap
4. Reconstruct Easterly End of Parallel TW	-44,226	Infiltration Grass filter
5. Construct Electric Vault	+381	Infiltration Grass filter
6. Improve Access Road to MALSF	+1,000	Infiltration Grass filter
7. Construct AWOS and LES Service Access Roads	+5,500	Infiltration Grass filter
8a. Expand Auto Parking (Phase 1)	+2,830	Infiltration Grass filter
8b. Expand Auto Parking (Phase 2)	+5,070	Bioretention
Total Net Change in Pavement	**-27,925 SF**	
Source: consultant calculations		

Table 5-3 Summary Of Impacts And Proposed Mitigation Measures For Preferred Alternatives For CIP Projects

PROPOSED ALTERATION					PROPOSED MITIGATION		
Project	**Type of Resource Area**	**Area of Proposed Alteration (SF)**	**Species Habitat**	**Description of Proposed Alteration**	**Description of Proposed Mitigation**	**Area of Proposed Mitigation (SF)**	
(1) Westerly TW System Improvements	IVW	28,655 (Wetland I)	EBT, ES(B)	Fill	On-site wetland restoration	Areas A & C	
	Coastal Dune	6,460	EBT, ES(N)		On-site dune creation	Areas A & C	
	Cultural Grassland	No Net Loss	EBT, VS		On-site cultural grassland creation/restoration	No Net Loss	
(2) Relocate East End TW	IVW	28,300 (Wetland B)	EBT, ES(B)	Fill	On-site wetland restoration	Areas A & C	
	Coastal Dune	5,000	EBT, ES(N)		On-site dune creation	Areas A & C	
	Cultural Grassland	No Net Loss	EBT, VS		On-site cultural grassland creation/restoration	No Net Loss	
(3) Reconstruct Terminal Apron	--	--		--	--	--	
(4) Reconstruct Easterly End of Partial Parallel TW	--	--		--	--	--	
(5) Install TW Lighting and Construct Electric Vault	Cultural Grassland	No Net Loss	EBT, VS	--	On-site cultural grassland restoration	--	
(6) Repair Sightseeing Shack	--	--		--	--	--	
(7) Improve Access Road to Approach Lights (MALSF)	BVW	960 (Wetland C/J/FK)		Fill	On-site wetland restoration	Area B	
(8) Construct Service Access Roads LES Road	Coastal Dune	7,610	EBT, ES(N)	Fill	On-site dune creation	Areas A & C	
(8) Construct Service Access Roads AWOS Road	IVW	290 (Wetland H)	EBT	Fill	On-site wetland restoration	Areas A & C	
	Coastal Dune	10,560	EBT, ES(N)	Fill	On-site dune creation	Areas A & C	
(9) Install Perimeter Fence (REVISED alternative) **"Concept 6"**	BVW	1,152 (direct)[1] 8,972 (indirect/secondary) (Wetland C/J/FK)	(EBT)	Direct Impact consists of Fill for Fence Post Installation and maintenance. Indirect/Secondary Impact consists of Vegetation Maintenance[1].	On-site wetland restoration	Area B	
	IVW	25,648 (direct) 3,952 (indirect/secondary)	EBT, ES(B)		On-site wetland restoration On-site wetland enhancement	Areas A & C Wetland H & I	
	Coastal Dune	8,060 (direct) 24,028 (indirect/secondary)	EBT, ES(N)	Fill	On-site dune creation	Areas A & C	
(10a) Expand Auto Parking (Phase 1)	Coastal Dune	7,315	EBT, ES(N)	Fill	On-site dune creation	Areas A & C	
(10b) Auto Parking (Phase 2) **"Concept 4"**	Coastal Dune	5,707	EBT, ES(N)	Fill			
(11) Expand Terminal Building (Vertical Expansion)	--	--		--	--	--	
(12) Expand Turf Apron	Cultural Grassland	No Net Loss	EBT, VS	--	On-site cultural grassland restoration		
TOTAL DIRECT ALTERATION: (SF)				**TOTAL ON-SITE MITIGATION: (SF)**		**Net Change in Area (SF)**	
	IVW	82,893			On-site IVW restoration	78,000	**-4,893 (~1:1)**
					On-site wetland enhancement	616,350	**(~7.4:1)**
	BVW	2,112			On-site BVW restoration	5,000	**+2,888 (~2.4:1)**
	Coastal Dune	50,712 (includes Parking Phases 1 & 2)			On-site Dune creation	27,500	**-23,212 (~0.5:1)** **-7,212 (~0.9:1)**
	Cultural Grassland	No Net Loss			On-site Cultural Grassland restoration No Net Loss	On-site cultural grassland creation/restoration	**No Net Loss**

[1] Direct fence impacts have been calculated based upon direct fill for the fence posts and conversion of forested and dense shrub areas to low growing communities as a result of vegetation management. Indirect/secondary impacts are based upon areas where either 1) vegetation is already open and/or low-growing and will not require vegetation management, or else 2) consists of a monoculture of *Phragmites*.

EBT = Eastern Box Turtle Habitat
ES(B) = Eastern Spadefoot Toad Breeding Habitat
ES(N) = Eastern Spadefoot Toad Non-Breeding Habitat
VS = Vesper Sparrow Habitat



Prepared By:

JACOBS

🟦 NEW IMPERVIOUS PAVEMENT AREA

⬜ EXISTING IMPERVIOUS REMAINING

🟩 IMPERVIOUS AREA TO BE REMOVED

Approx. Scale: 1"=300'

0 150 300

Provincetown Municipal Airport
Capital Improvements Plan

AIRPORT PAVEMENT PLAN

Figure 5.4

SECTION 6.0 PROJECT DESCRIPTION (Preferred Alternative)

6.1 CIP Project Construction and Permitting Schedule

This section describes the proposed project elements, the unavoidable impacts, and proposed mitigation. Mitigation is described in more detail in Section 7. The impacts associated with each project are summarized in Table 5-3 in Section 5.

The Provincetown Municipal Airport Commission proposes a Capital Improvements Plan (CIP) of safety and facility improvements for the Airport. Implementation of the CIP will fulfill the mission of the Airport to operate a safe, secure, and reliable non-hub primary service airport receiving scheduled airline passenger service.

Construction Phasing

The CIP projects would be constructed over the period of the next ten years. Table 6-1 provides the construction phasing for the projects.

Table 6-1 Construction Phasing

CIP Project Element	Construction Year
1. Reconstruct Terminal Apron (*Completed*)	Fall 2008
2. Westerly Taxiway System Improvements 3. Reconstruct Easterly End of Partial Parallel TW 4. Relocate East End TW 5. Install TW Lighting and Construct Electric Vault 6. Sightseeing Shack Improvements	2013
7. Improve Access Road to Approach Lights (MALSF)	2017
8. Construct Service Access Roads to AWOS and LES	2017
9. Install Perimeter Safety/Security Fence	2015
10. Expand Auto Parking	2014
11. Expand Terminal Building	2016
12. Expand Turf Apron	2015

Source: Airport Management Review and Consultant Estimations

Environmental Permitting Phasing

Permitting for the projects would be structured to allow individual projects, or groups of projects, to go forward as funding is available as shown in Table 6-2. All of the CIP project elements have been discussed in this document to provide the environmental resource agencies an understanding of the overall potential for impacts and to avoid the segmentation of project review.

Section 8 discusses all the permits and environmental reviews that pertain to the projects. Once the NEPA/MEPA process is completed and the DRI process has been initiated, other permit applications will be submitted as described and summarized in Table 6-2.

Table 6-2 Permitting Requirements & Phasing

CIP Project Element	Expected Permitting Structure
Reconstruct Terminal Apron (*Completed*)	Order of Conditions (*Issued*)
Westerly Taxiway System Improvements Reconstruct Easterly End of Partial Parallel TW Relocate East End TW Install TW Lighting and Construct Electric Vault Sightseeing Shack Improvements	Order of Conditions; Individual WQC (or part of Variance); Section 404 ACOE permit; No Take under MESA Conditions; DRI Construction Phase 1
Improve Access Road to Approach Lights (MALSF)	Order of Conditions, Individual WQC (or part of Variance); Section 404 ACOE permit; No Take with MESA Conditions; DRI Construction Phase 3
Construct Service Access Roads to AWOS and LES	Order of Conditions; WQC Variance; Section 404 ACOE permit; No Take with MESA Conditions; DRI Construction Phase 3
Install Perimeter Fence	WPA Variance/ Provincetown Conservation Commission NOI; WQC Variance; Section 404 ACOE permit; No Take with MESA Conditions; DRI Construction Phase 2
Expand Auto Parking	Order of Conditions; No Take with Conditions; DRI Construction Phase 2
Expand Terminal Building	Request for Determination of Applicability (RDA); DRI Construction Phase 3
Expand Turf Apron	Order of Conditions; No Take with Conditions; DRI Construction Phase 2

Source: Consultant Evaluation

Footprint Reconstruction Projects Review and Permitting Process

The Terminal Apron Reconstruction was issued an Order of Conditions by the Provincetown Conservation Commission (PCC). The project was also reviewed by the NHESP as part of the Notice of Intent process. Since the project did not involve wetland alteration, a WQC review was not required. The Terminal Apron project was completed in 2008.

Although the reconstruction of the easterly end of the parallel taxiway has been allowed by MEPA to go forward ahead of the completion of the MEPA process, the project will be completed as part of the westerly taxiway system improvements. As requested by NHESP, these two projects will be included in the submission for MESA review to avoid segmentation.

Wetlands Protection Act and Provincetown Wetlands Protection Bylaw Permitting Process

A Notice of Intent will be submitted to the PCC for all project elements that will alter wetland resources or occur within the Buffer Zone to wetland resources. The Commission will be asked to issue an Order of Conditions for the elements that meet the performance standards of the WPA and local bylaw regulations.

The fence project and the improvements to the MALSF access road combined would directly (permanently) alter a total of 2,460 SF of Bordering Vegetated Wetland (BVW).

Section 401 Clean Water Act Water Quality Certification Permitting Process

Wetland resources within the entire CCNS are classified as Outstanding Resource Waters (ORWs). Any alteration to wetlands requires, at a minimum, an Individual Water Quality Certification (WQC). Pursuant to 314 CMR 9.06(3)(c), some of the projects would be classified as "Maintenance, repair, replacement, or reconstruction, but not substantial enlargement of lawfully located structures or facilities including buildings, roads, railways, utilities and coastal engineering structures."

Section 404 Clean Water Act Corps of Engineers Permitting Process

An application for an individual Section 404 permit will be submitted. Permit review by the Corps of Engineers will be concurrent with the WQC (Section 401 of the Clean Water Act) review to minimize duplication of submissions.

The ACOE requires that the applicant provide compensatory mitigation through an aquatic resource restoration, establishment, enhancement and/or preservation activity. This compensatory mitigation may be provided at or adjacent the impact site (i.e., on-site mitigation) or at another location, usually within the same watershed as the permitted impact (i.e., off-site mitigation). The Airport will implement a program of on-site restoration, replication, and enhancement at the Airport and will retain responsibility for the implementation, monitoring, and success of the mitigation project.

Massachusetts Endangered Species Act

The Airport is mapped by the Massachusetts Natural Heritage and Endangered Species Program (NHESP) as Priority Habitat of Rare Species and Estimated Habitat of Rare Wildlife for four State-listed rare species: Eastern Box Turtle, Eastern Spadefoot Toad, Vesper Sparrow, and Broom Crowberry.

"Take," as defined by NHESP in reference to animals, means to "harass, harm, pursue, hunt, shoot, hound, kill, trap, capture, collect, process, disrupt the nesting, breeding, feeding or migratory activity or attempt to engage in any such conduct, or to assist such conduct, and in reference to plants, means to collect, pick, kill, transplant, cut or process or attempt to engage or to assist in any such conduct. Disruption of nesting, breeding, feeding or migratory activity may result from, but is not limited to, the modification, degradation or destruction of Habitat" (321 CMR 10.02).

As part of the review of the NPC/Draft EA/EIR, NHESP indicated that the proposed improvement projects might result in a "Take" of the Eastern Spadefoot Toad, and the Eastern Box Turtle if construction avoidance methods were not developed. The NHESP also indicated that, with certain construction conditions, a "Take" may be avoided for the Vesper Sparrow and the Eastern Spadefoot Toad. NHESP emphasized that the Airport should try to avoid a "Take," if possible.

Since the NPC/Draft EIR/EA, the Project Team has met with NHESP twice (see minutes provided in Section 10.1) to discuss ways to minimize impacts to all listed species. Additional design alternatives, construction phase measures, and operational mitigation measures have been developed to avoid a "Take" of any listed species at the Airport as a result of the CIP projects. This FEIR/EA reflects those measures. A MESA Project Review Checklist will be submitted to NHESP for their review and determination.

CCC DRI Process

A Public Hearing was held on June 27, 2007, which officially started the CCC DRI process, to gather information for a joint DRI/MEPA review. Several pre-application meetings have been held with Cape Cod Commission (CCC) staff to discuss the appropriate regulatory review process with the Commission. Minutes of these meetings are provided in Appendix 7.

While the Airport is able to comply with the majority of the Minimum Performance Standards (MPSs) found in the CCC Regional Policy Plan (RPP), effective April 29, 2000, the requirement to meet current FAA, MassDOT Aeronautics, and TSA safety and security design standards for a primary commercial service airport will not allow the Airport to comply with all of the MPSs. It is not possible to meet all MPSs of the RPP because the Airport infrastructure projects would be non-compliant with federal and state safety and security standards for primary commercial service airports. The inability to comply with the MPSs is directly related to the environmental setting of the Airport. A summary table in Appendix 7 lists the MPSs and the status of the CIP project compliance.

The Airport functions as a public facility servicing the local and regional community. As such, the Airport will submit a Hardship Exemption/Project of Community Benefit request. This FEIR/EA includes information required by the CCC for a Development of Regional Impact (DRI) Application and is a supplement to the DRI application package. After the FEIR/EA is issued a MEPA Certificate by the Secretary, the CCC will hold Public Hearings on the DRI application.

All the proposed projects will be included in the DRI application so that total net impacts/improvements can be assessed together. Since the funding and final design process for airport projects is somewhat unique, the CCC will be asked to issue a decision that will allow construction to be phased over a period of time. Various CIP projects would then be constructed over a number of years, as funding is available. The application will be structured so that the CCC can allow projects to go forward with phased construction. A suggested permit structure that has 3 Design/Construction Phases is provided below:

- Construction Phase 1 would include: Westerly Taxiway System Improvements; Reconstruction of the Easterly End of the Parallel TW; the Relocation of the East End TW; Installation of the TW Lighting and Construction of the Electric Vault and the Sightseeing Shack Improvements; Improvements to the Access Road to Approach Lights (MALSF); and construction of the Service Access Roads to AWOS and LES.
- Construction Phase 2 would include: Installation of the Safety/Security Fence; Expansion of the Auto Parking; and Expansion of the Turf Apron.
- Construction Phase 3 would include: Terminal Building Expansion.

Description of Proposed CIP Projects

The projects are described below, which does not necessarily reflect the order in which the projects would be constructed:

1. Westerly Taxiway System Improvements
2. Relocate East End TW
3. Reconstruct Terminal Apron
4. Reconstruct Easterly End of Partial Parallel TW
5. Install TW Lighting and Construct Electric Vault
6. Sightseeing Shack Improvements
7. Improve Access Road to Approach Lights (MALSF)
8. Construct Service Access Roads to AWOS and LES
9. Install Perimeter Fence
10. Expand Auto Parking
11. Expand Terminal Building
12. Expand Turf Apron

6.2 Westerly Taxiway System Improvements

The project to improve the westerly taxiway system would: 1) relocate the West End taxiway, 2) realign and reconstruct the westerly end of the parallel taxiway with a run-up pad, 3) and realign the Mid Connector taxiway as shown on Figure 6.1. Although not an official airport designation, the parallel taxiway is referred to in this document as having an easterly end and a westerly end to discuss environmental impacts.

Approximately 28,655 SF of isolated wetlands would be altered. Approximately 6,460 SF of coastal dune will be altered for the run-up pad. Removal of the pavement for the existing West End TW and the Mid Connector TW provides an opportunity to restore approximately 64,000 SF of isolated wetland, as shown on Figure 7.1 and 7.3 in Section 7 and referred to as Restoration Area A. Wetland restoration in this area will serve as mitigation for several CIP projects.

There will be a net decrease in impervious area as a result of the construction of a uniform 40-foot wide parallel TW. Pavement will be removed between the West End TW and the paved GA Apron. This net decrease will be used to offset the increase in impervious area as a result of other project elements. A table with an overall plan of the Airport pavement is provided in Section 5 to explain the net changes in pavement. Currently, stormwater runoff from the taxiways sheet flows over the grass safety areas before infiltrating into the ground. There is no sanding or deicing of the taxiways so that the stormwater flows contain minimal total suspended solids. There would be minimal potential for oil or other contaminants in the stormwater. The grass safety areas will be reestablished adjacent to the realigned TWs.

6.3 Relocate East End TW

The relocation of the East End connector TW would shift the TW approximately 200 feet to the east so that it connects at the end of Runway 25, as shown on Figure 6.2. This will eliminate the need to back taxi on the runway, which currently conflicts with flight operations.

Approximately 28,300 SF of isolated wetlands within Wetland B would be altered. Approximately 5,000 SF of coastal dune will be altered. Removal of the pavement for the existing East End TW provides an opportunity to restore up to 14,000 SF of isolated wetland, as shown on Figure 7.2 and 7.4 in Section 7 and referred to as Restoration Area B. The remaining wetland mitigation needed for this project would be provided in Restoration Area A.

Currently, stormwater runoff from the taxiway sheet flows over the grass safety areas before infiltrating into the ground. There is no sanding or deicing operations on the East End taxiway so that the stormwater flows contain minimal total suspended solids. There would be minimal potential for oil or other contaminants in the stormwater. The grass safety areas will be reestablished adjacent to the realigned TWs.

6.4 Reconstruct Terminal Apron

The Certificate issued on the NPC/DEIR by the Secretary of Energy and Environmental Affairs allowed the Airport to proceed with the reconstruction of the Terminal Apron within the same footprint prior to the completion of the FEIR/EA. The Terminal Apron pavement is approximately 20,000 SF. The location of the Terminal Apron can be seen on Figure 1-2.

A Notice of Intent (NOI) was submitted to the Provincetown Conservation Commission. The project was issued an Order of Conditions (DEP File No. 058-0440) and construction was completed in the fall of 2008.

Coordination was carried out with staff at NHESP for this project. Although NHESP had the opportunity to review and comment as part of the NOI process under the joint WPA/MESA review, the project will be included in the overall MESA Project Review submission for the Airport’s CIP projects to avoid segmentation.

The existing closed drainage system, described in Section 4, has been maintained. This system collects drainage from the area of the terminal which is used for the infrequent and limited deicing operations, and mobile fueling. The system has been fitted with a filtration system to intercept petroleum-based pollutants from the runoff before discharge. To improve existing conditions, as required by the stormwater regulations, an existing outlet was retrofitted with an outlet sediment trap. A draft Spill Prevention Control and Countermeasure Plan (SPCCP) has been developed for the Airport and is included in the Appendices.

6.5 Reconstruct Easterly End of Parallel TW

Although not an official airport designation, the parallel TW is referred to as having an easterly section and westerly section in this document to reflect the construction phasing of the CIP projects. The width of the TW is currently 60 feet. As part of the reconstruction and the westerly TW improvements, the width would be reduced to 40 feet. The TW can be seen on Figures 1-2, 6.1, and 6.13.

6.6 Install Taxiway Edge Lights and Construct Electric Vault

The taxiway edge lights and signs would be constructed 10 feet off the edge of pavement for all of the taxiways as shown in Figures 6.3 and 6.4. Lighted TW signs would be installed to identify the locations of each TW. Lighted signs are installed when edge lights are installed. The electric cable for the lights and TW signage would be installed with the cable plowing method. The plowed area would be restored. The new electric vault would be a 10 by 20 foot structure, approximately 10 feet high and similar in appearance to the existing utility buildings for the localizer and the glide slope equipment. An approximately four foot wide gravel area would be constructed around the vault to meet access and spacing requirements included in the electric code for high voltage structures. There will be a paved walkway to the service door and parking for two vehicles. The vault will be located adjacent to the Sightseeing Shack and will not impact wetlands. This area was field checked during preparation of the Final EIR/EA to confirm that it will not impact wetlands. There would be a temporary minor impact to Cultural Grasslands for the installation of the electric cable. The area will be restored.

6.7 Sightseeing Shack Improvements

The Sightseeing Shack would be repaired as needed after the electrical equipment is removed as part of the TW edge lights project. The project would remain within the existing footprint for the building and surrounding access area. The location of the Sightseeing Shack can be found on Figure 1-2.

6.8 Improve Access Road to MALSF Approach Lights

To provide for a vehicle turn-around area, the embankment for the existing 10 foot wide gravel service road would be widened at the westerly end. Figure 6.5 provides a plan view of the proposed improvements. The area would be 30 feet wide and 30 feet long to allow the required maintenance vans to turn around. In compliance with FAA requirements, the first 300 feet of the service road off the runway will be paved.

This project would alter approximately 960 SF of BVW in Wetland C/J/FK. Restoration for this project and the fence project is proposed in Restoration Area C, as shown on Figures 7.1 and 7.3 in Section 7.

There would be 3,000 SF of new impervious area to provide for the 10 foot wide, 300 foot long paved access from the end of Runway 7. The remaining length of road will be gravel.

6.9 Construct Service Access Roads to the Localizer Equipment Shelter and to the Weather Station

The service access roads would provide vehicle access from the East End TW outside the active runway operating area. Figure 6.6 provides a plan view of this area. The access roads would be paved for a width of 10 feet with one-foot grass shoulders on each side and a turn-around area.

Construction of the Preferred Alternative (Alternative 2) for the access road to the Weather Station (AWOS) would impact 290 SF of Wetland H. Construction of the Preferred Alternative (Alternative 2) for the access road to the Localizer (LES) would not impact wetlands. The preferred alternatives are shown on Figure 6.6. Wetland mitigation for this access road project would be included in Wetland Restoration Areas A or B, as discussed in Section 7.1.

There would be 6,000 SF of new impervious area for the two roads. The net reduction in pavement at the Airport is discussed in Section 5. Runoff would sheet flow to the sides and over the grass shoulder before infiltrating into the soil, similar to the existing service access road to the glide slope antenna equipment shelter. It is unlikely that the runoff would contain any contaminants.

6.10 Install Perimeter Safety/Security Fence

A 9 foot high perimeter safety/security fence would be constructed along the preferred alignment (Concept 6) shown on Figures 6.7, 6.8 and 6.9. The proposed alignment for the safety/security fence includes a four foot wide maintained area on both sides of the fence. This area would be maintained with a brush hog but would not be graded or grubbed. The clear area would allow deer to run along the outside of the fence (rather than jump the fence onto the active airfield if alarmed) and would allow for inspection of the fence.

Gaps would be incorporated into the bottom of the fence at regular intervals to facilitate movement of turtles, toads and other small animals as shown in the detail in Figure 6.7. NHESP has provided initial guidance on the location and inspection of the proposed gaps in the fence to facilitate movement of small wildlife. The gaps would be located approximately every 100 feet and inspected at least once a year in the spring as part of the Airport’s operational mitigation plan. Since the graded patrol road has been eliminated, NHESP will include in their determination required mitigation relative to access to, location of, and methods of maintaining the gaps.

Approximately 25,648 SF of isolated vegetated wetland (IVW), 1,152 SF of BVW, and 8,060 SF of coastal dune would be directly altered for construction of the fence. Approximately 3,952 SF of IVW, 8,972 SF of BVW, and 24,028 SF of coastal dune would be indirectly impacted for vegetation management.

6.11 Expand Auto Parking

Concept 4 would construct 28 additional spaces for Phase 1 as shown in Figure 6.10. After additional parking studies and subsequent review and approval by NPS and CCC, Phase 2 would construct 29 additional spaces if needed. Building the project in phases will address the immediate existing need for additional parking and the issue of cars parking along Airport Drive.

The aisles would be paved and parking spaces would be packed gravel. Infiltration swales will be constructed for Phase 1. A bioretention system would be constructed as part of Phase 2 to provide treatment of runoff in accordance with current WPA regulations.

Landscaping will use native plants similar to those listed in the NPS *Site and Building Design and Rehabilitation Handbook*, September 2005 developed for the Highlands Center at CCNS.

As an adjunct element to Phase 1, efforts to reduce demand by improving awareness of the shuttle system, encouraging the use of taxis, and working with NPS to explore the use of remote lots for long term parking may possibly reduce or delay the need to build the second phase. The phases would be permitted separately with the Provincetown Conservation Commission so Phase 1 could go forward, but with an understanding of the entire project.

6.12 Expand Terminal Building

The proposed expansion of the Terminal Building would add a second floor above the existing building. The building would be approximately 6-12 feet higher than the existing building. Conceptual views of the Preferred Alternative can be seen on Figures 6.11 and 6.12. Exterior building materials for the selected design would match the existing Terminal Building.

Modifications to the existing first floor include converting the existing conference room into a pilot briefing room, and adding a vertical circulation for access to the new second floor. The vertical circulation includes a new staircase adjacent to the rental car counter area, a new elevator between the two restrooms, and a modification of the women's restroom to accommodate the new elevator.

The new second floor would accommodate Airport staff offices and storage, a conference room, and a pre-security waiting area. The existing airport staff offices on the first floor would be used as airport support and storage space.

Sustainable Design Considerations
Construction of the Terminal addition would provide opportunities for incorporating sustainable design alternatives into the project. Detailed evaluation of sustainable design measures would be considered to make the Terminal building as "green" as possible. Water conservation measures could include the use of low flow fixtures and faucets with sensors.

Water usage could be further reduced through the use of drought tolerant native landscape plant materials. It may be possible to capture and reuse roof runoff for landscape irrigation (i.e. rain barrels).

The size and location of the building may enable the use of renewable energy technologies. Solar and wind power would have to blend with the visual environment of the CCNS, however. Optimization of natural daylight, use of passive solar gain, and natural cooling will be considered in the design of the addition.

Energy efficient HVAC and lighting systems, appliances, and other equipment, and solar preheating of air would be considered. The existing heating system could be used to establish an energy use baseline from which the system(s) could be monitored for energy conservation measures. The existing HVAC system could be evaluated to determine whether a new, more energy efficient system is needed or if there are cost effective measures that could be taken to make the existing HVAC system more energy efficient. Existing lighting systems could be replaced with new more energy efficient lighting systems. New energy efficient lighting systems will be specified in new construction work. New appliance(s) and other equipment needs will be specified as energy efficient appliances (Energy Star compliant, etc.) where possible.

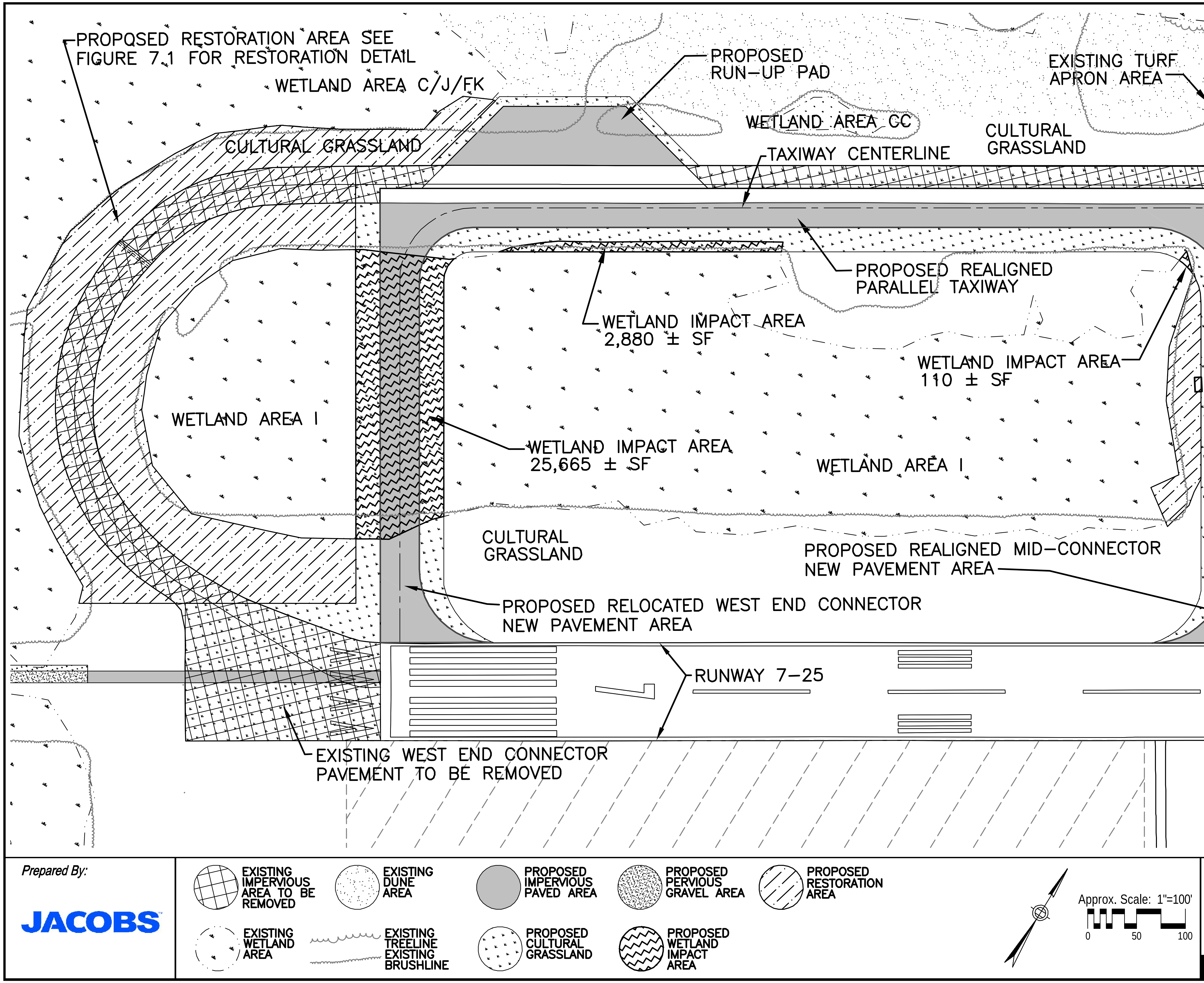
Building supplies and materials that are non-toxic, made from recycled materials, and made with low embodied energy could be specified.

The Airport Commission has worked closely with the Town's Recycling and Reusable Energy Committee. The Airport has multiple recycling receptacles, which have been successfully used to lower solid waste disposal. Since the Airport is at such a remote location and such a small generator of recyclables, it is not included on a commercial pick-up route. However, the Airport staff take the paper and plastic recyclables to the Town sorting facility themselves. This recycling is anticipated to continue to reduce solid waste at the facility.

6.13 Expand Turf Apron

The construction of additional turf apron would be located between the two existing areas for turf apron parking adjacent to the parallel TW as shown on Figure 6.13.

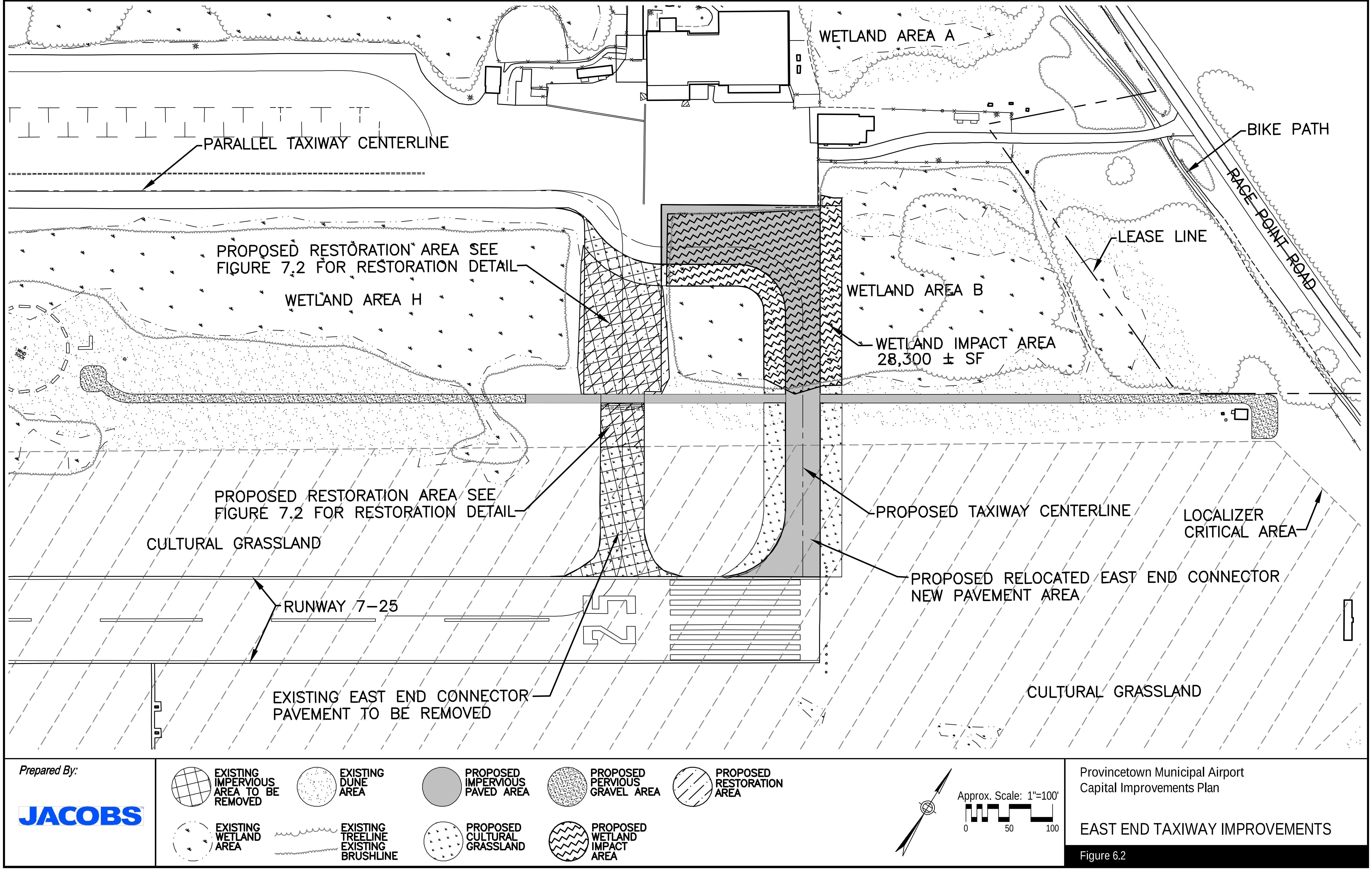
The dimension of the apron area has been reduced to avoid wetland impacts. The reduced dimension would accommodate light single-engine GA aircraft. Approximately 16,780 SF of existing managed grassland will be reconstructed to support the weight of the planes. The area will be maintained as managed grassland.


PROPOSED RESTORATION AREA SEE FIGURE 7.1 FOR RESTORATION DETAIL
WETLAND AREA C/J/FK
CULTURAL GRASSLAND
PROPOSED RUN-UP PAD
WETLAND AREA CC
TAXIWAY CENTERLINE
CULTURAL GRASSLAND
EXISTING TURF APRON AREA
WETLAND AREA C
PROPOSED REALIGNED PARALLEL TAXIWAY
WETLAND IMPACT AREA 2,880 ± SF
WETLAND IMPACT AREA 110 ± SF
WETLAND AREA I
WETLAND IMPACT AREA 25,665 ± SF
WETLAND AREA I
WETLAND AREA H
CULTURAL GRASSLAND
PROPOSED REALIGNED MID-CONNECTOR NEW PAVEMENT AREA
PROPOSED RELOCATED WEST END CONNECTOR NEW PAVEMENT AREA
RUNWAY 7-25
7
EXISTING WEST END CONNECTOR PAVEMENT TO BE REMOVED
EXISTING MID-CONNECTOR PAVEMENT TO BE REMOVED
Prepared By:
EXISTING IMPERVIOUS AREA TO BE REMOVED
EXISTING DUNE AREA
PROPOSED IMPERVIOUS PAVED AREA
PROPOSED PERVIOUS GRAVEL AREA
PROPOSED RESTORATION AREA
EXISTING WETLAND AREA
EXISTING TREELINE
EXISTING BRUSHLINE
PROPOSED CULTURAL GRASSLAND
PROPOSED WETLAND IMPACT AREA
Approx. Scale: 1"=100'
0
50
100

Provincetown Municipal Airport
Capital Improvements Plan

WESTERLY TAXIWAY SYSTEM IMPROVEMENTS

Figure 6.1


WETLAND AREA A
BIKE PATH
RACE POINT ROAD
PARALLEL TAXIWAY CENTERLINE
LEASE LINE
PROPOSED RESTORATION AREA SEE FIGURE 7.2 FOR RESTORATION DETAIL
WETLAND AREA H
WETLAND AREA B
WETLAND IMPACT AREA 28,300 ± SF
PROPOSED RESTORATION AREA SEE FIGURE 7.2 FOR RESTORATION DETAIL
PROPOSED TAXIWAY CENTERLINE
LOCALIZER CRITICAL AREA
CULTURAL GRASSLAND
PROPOSED RELOCATED EAST END CONNECTOR NEW PAVEMENT AREA
RUNWAY 7–25
25
EXISTING EAST END CONNECTOR PAVEMENT TO BE REMOVED
CULTURAL GRASSLAND
EXISTING IMPERVIOUS AREA TO BE REMOVED
EXISTING DUNE AREA
PROPOSED IMPERVIOUS PAVED AREA
PROPOSED PERVIOUS GRAVEL AREA
PROPOSED RESTORATION AREA
EXISTING WETLAND AREA
EXISTING TREELINE
EXISTING BRUSHLINE
PROPOSED CULTURAL GRASSLAND
PROPOSED WETLAND IMPACT AREA
Approx. Scale: 1"=100'
0
50
100

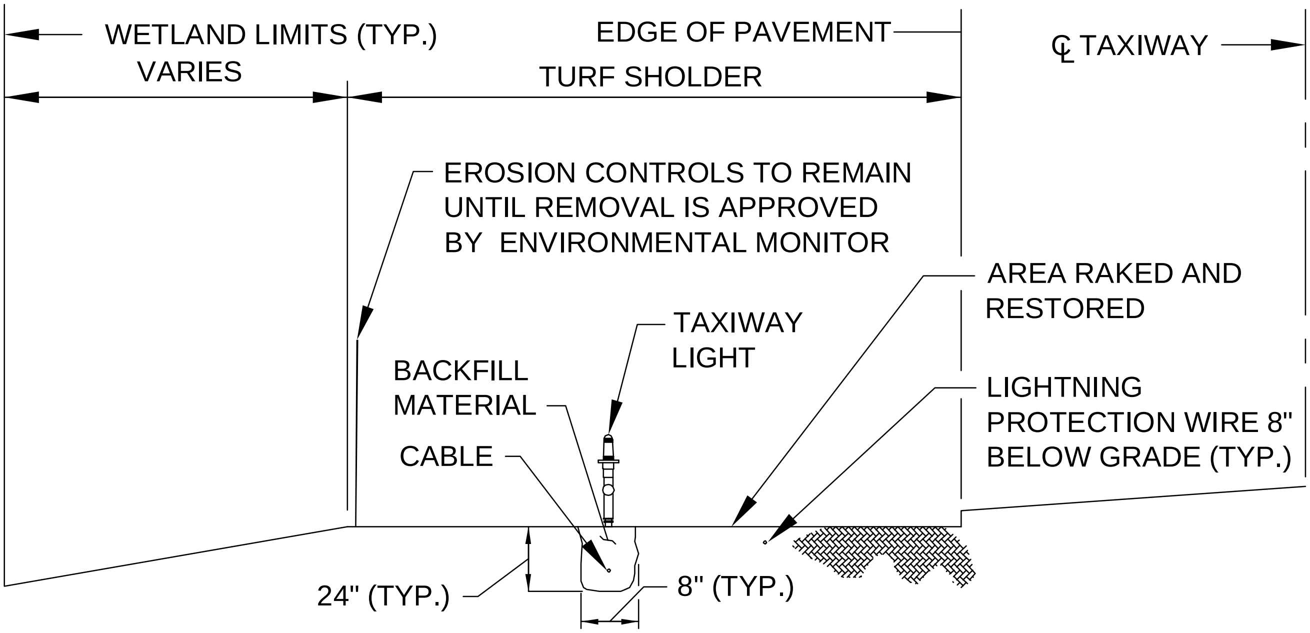
Prepared By:

JACOBS

Provincetown Municipal Airport
Capital Improvements Plan

EAST END TAXIWAY IMPROVEMENTS

Figure 6.2



RESTORED AREA DETAIL

NOT TO SCALE

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Provincetown Municipal Airport
Capital Improvements Plan

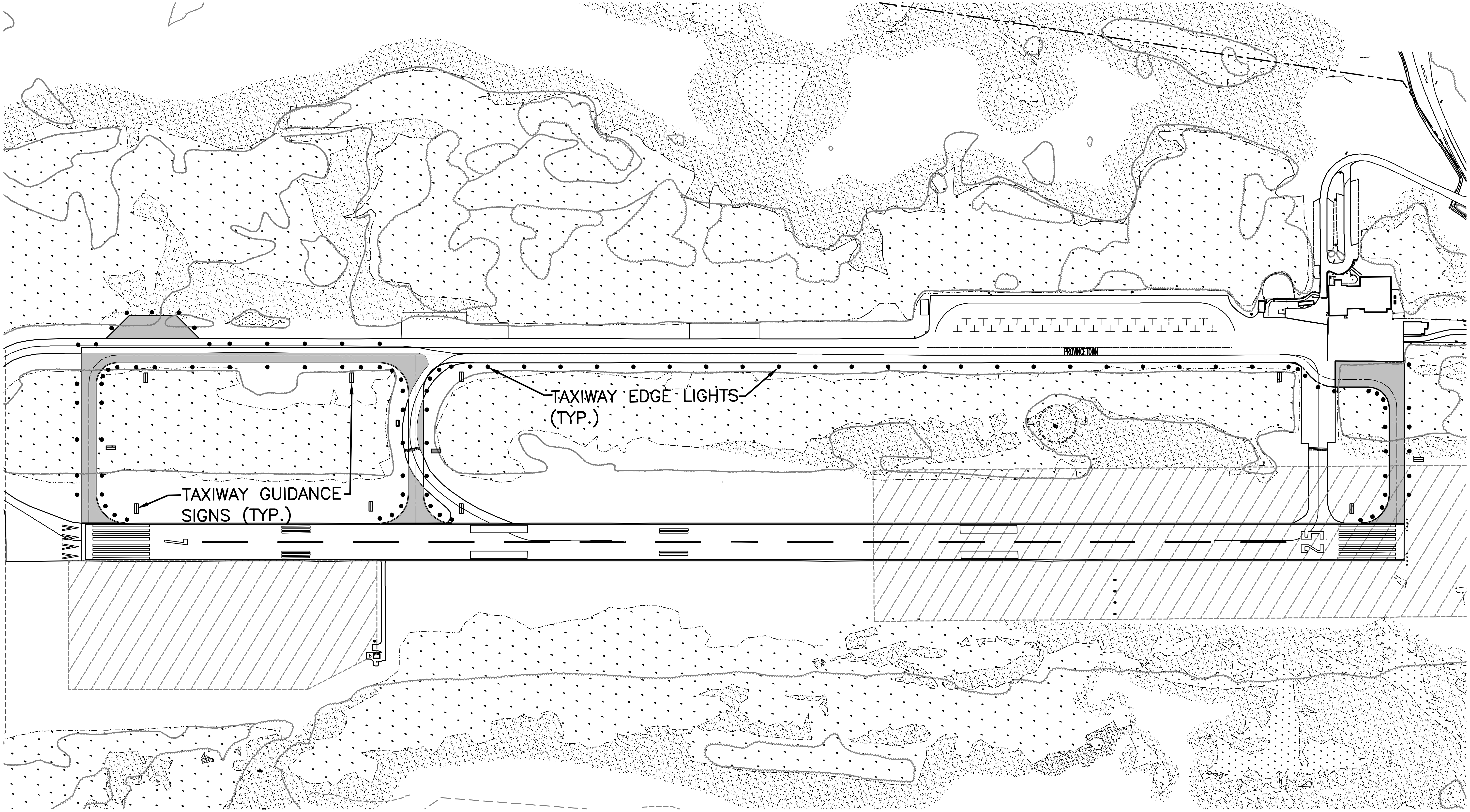
TAXIWAY EDGE LIGHTS CROSS SECTION

Figure 6.3

Provincetown Municipal Airport
Capital Improvements Plan

TAXIWAY LIGHTING PLAN

Figure 6.4



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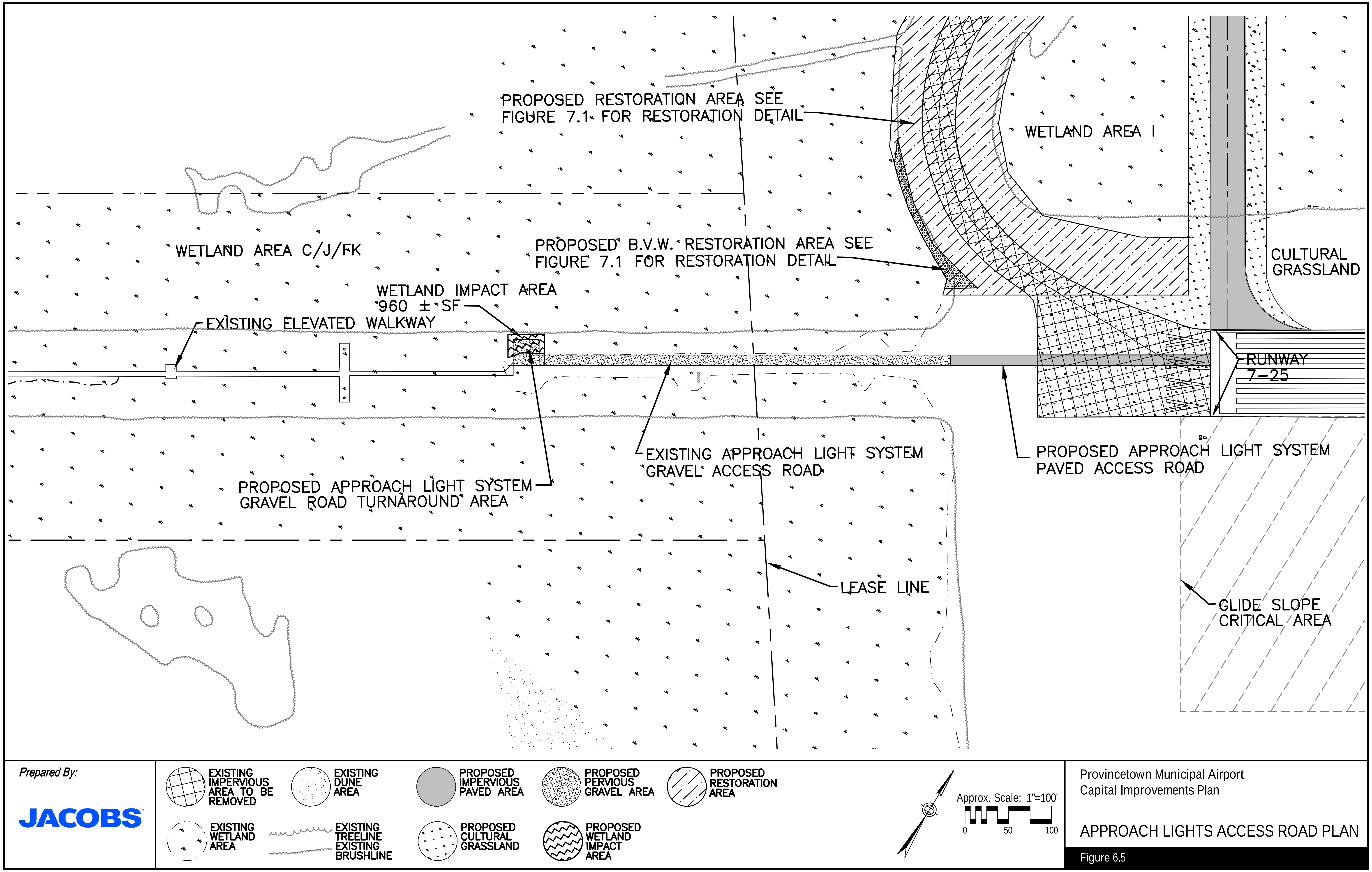
- EXISTING DUNE AREA
- PROPOSED IMPERVIOUS PAVED AREA
- PROPOSED PERVIOUS GRAVEL AREA
- EXISTING WETLAND AREA
- EXISTING TREELINE
- EXISTING BRUSHLINE
- ● PROPOSED TAXIWAY EDGE LIGHT
- ▯ PROPOSED TAXIWAY GUIDANCE SIGN

Approx. Scale: 1"=250'
0 125 250


PROPOSED RESTORATION AREA SEE FIGURE 7.1 FOR RESTORATION DETAIL
WETLAND AREA I
CULTURAL GRASSLAND
WETLAND AREA C/J/FK
PROPOSED B.V.W. RESTORATION AREA SEE FIGURE 7.1 FOR RESTORATION DETAIL
WETLAND IMPACT AREA
960 ± SF
EXISTING ELEVATED WALKWAY
RUNWAY 7–25
EXISTING APPROACH LIGHT SYSTEM GRAVEL ACCESS ROAD
PROPOSED APPROACH LIGHT SYSTEM PAVED ACCESS ROAD
PROPOSED APPROACH LIGHT SYSTEM GRAVEL ROAD TURNAROUND AREA
LEASE LINE
GLIDE SLOPE CRITICAL AREA
EXISTING IMPERVIOUS AREA TO BE REMOVED
EXISTING DUNE AREA
PROPOSED IMPERVIOUS PAVED AREA
PROPOSED PERVIOUS GRAVEL AREA
PROPOSED RESTORATION AREA
EXISTING WETLAND AREA
EXISTING TREELINE
EXISTING BRUSHLINE
PROPOSED CULTURAL GRASSLAND
PROPOSED WETLAND IMPACT AREA
Approx. Scale: 1"=100'
0
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Prepared By:

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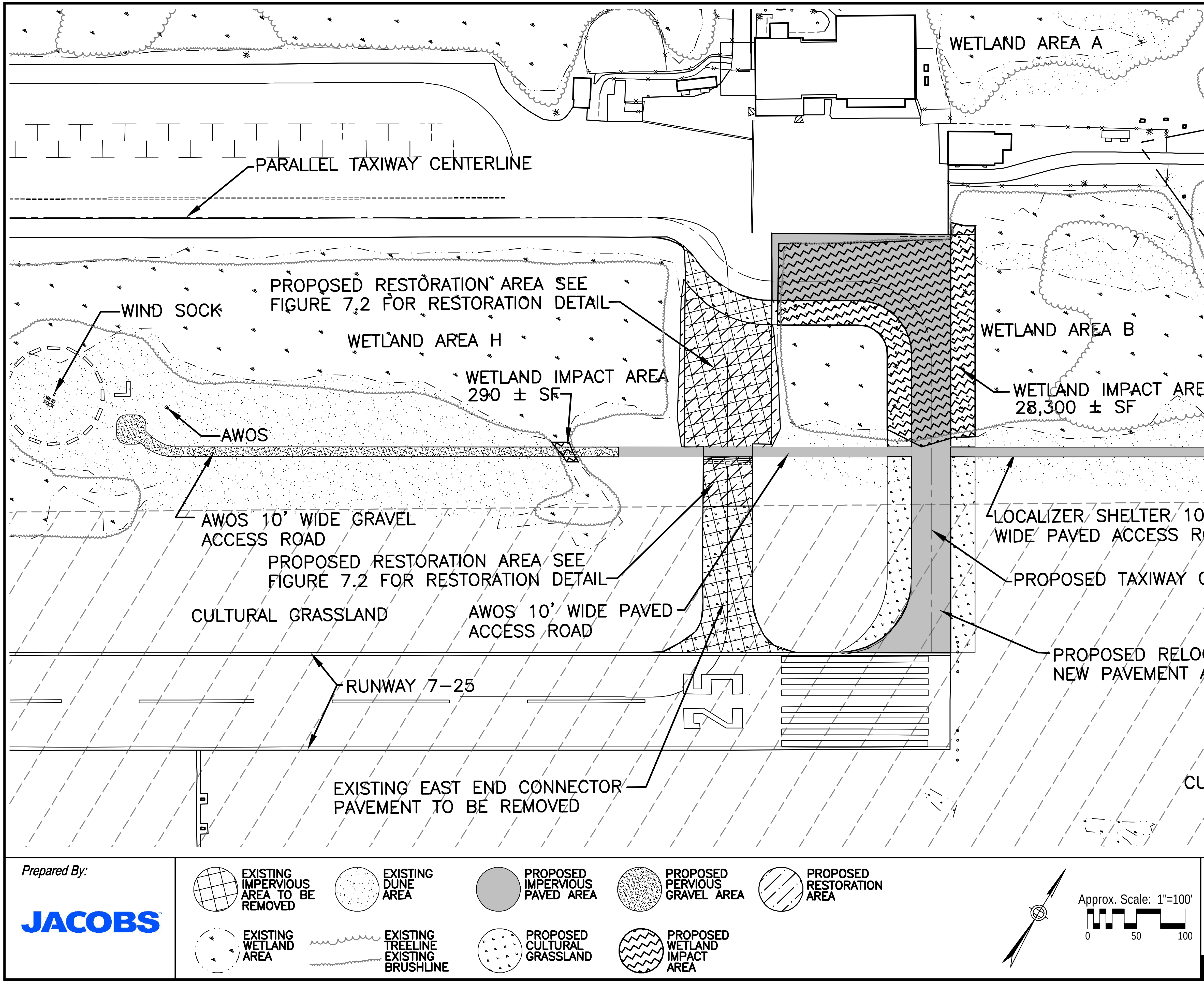
Provincetown Municipal Airport
Capital Improvements Plan

APPROACH LIGHTS ACCESS ROAD PLAN

Figure 6.5


WETLAND AREA A
BIKE PATH
RACE POINT ROAD
PARALLEL TAXIWAY CENTERLINE
LEASE LINE
PROPOSED RESTORATION AREA SEE FIGURE 7.2 FOR RESTORATION DETAIL
WIND SOCK
WETLAND AREA H
WETLAND AREA B
WETLAND IMPACT AREA 290 ± SF
WETLAND IMPACT AREA 28,300 ± SF
AWOS
AWOS 10' WIDE GRAVEL ACCESS ROAD
LOCALIZER SHELTER 10' WIDE PAVED ACCESS ROAD
LOCALIZER SHELTER 10' WIDE GRAVEL ACCESS ROAD
PROPOSED RESTORATION AREA SEE FIGURE 7.2 FOR RESTORATION DETAIL
PROPOSED TAXIWAY CENTERLINE
LOCALIZER CRITICAL AREA
CULTURAL GRASSLAND
AWOS 10' WIDE PAVED ACCESS ROAD
PROPOSED RELOCATED EAST END CONNECTOR NEW PAVEMENT AREA
RUNWAY 7-25
25
EXISTING EAST END CONNECTOR PAVEMENT TO BE REMOVED
CULTURAL GRASSLAND
Prepared By:
JACOBS
EXISTING IMPERVIOUS AREA TO BE REMOVED
EXISTING DUNE AREA
PROPOSED IMPERVIOUS PAVED AREA
PROPOSED PERVIOUS GRAVEL AREA
PROPOSED RESTORATION AREA
EXISTING WETLAND AREA
EXISTING TREELINE
EXISTING BRUSHLINE
PROPOSED CULTURAL GRASSLAND
PROPOSED WETLAND IMPACT AREA
Approx. Scale: 1"=100'
0
50
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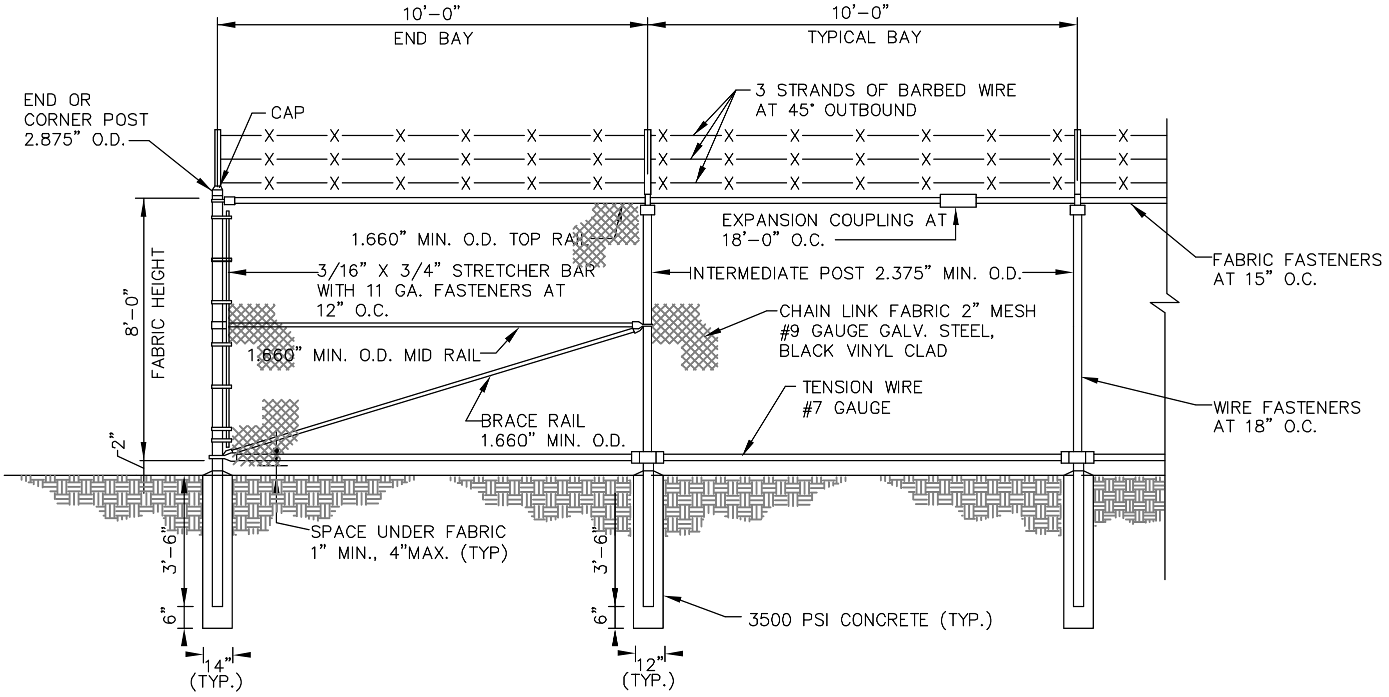
Provincetown Municipal Airport
Capital Improvements Plan

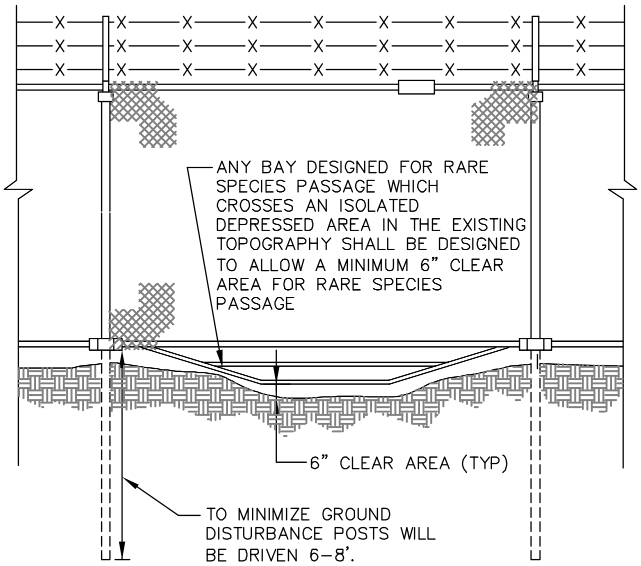
AWOS AND LES ACCESS ROADS PLAN

Figure 6.6

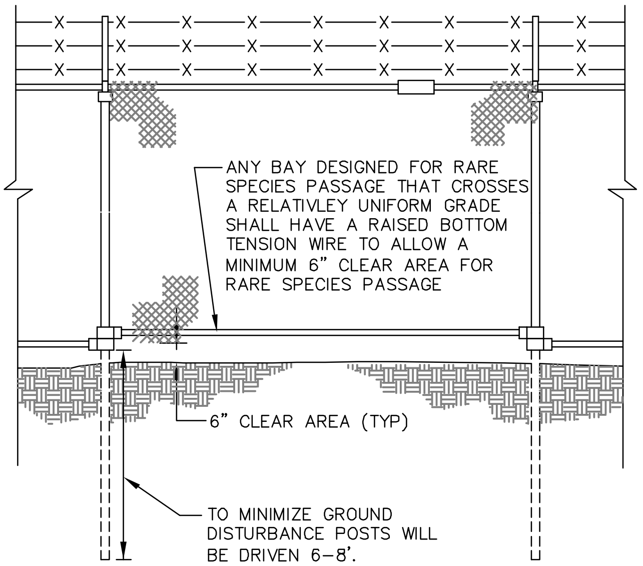


TYPICAL 8' SECURITY FENCE DETAIL

NOT TO SCALE



MITIGATING CONDITION A


ANY BAY DESIGNED FOR RARE
SPECIES PASSAGE THAT CROSSES
A RELATIVLEY UNIFORM GRADE
SHALL HAVE A RAISED BOTTOM
TENSION WIRE TO ALLOW A
MINIMUM 6" CLEAR AREA FOR
RARE SPECIES PASSAGE
6" CLEAR AREA (TYP)
TO MINIMIZE GROUND
DISTURBANCE POSTS WILL
BE DRIVEN 6–8'.

MITIGATING CONDITION B

SECURITY FENCE ENVIRONMENTAL MITIGATION DETAILS

NOT TO SCALE

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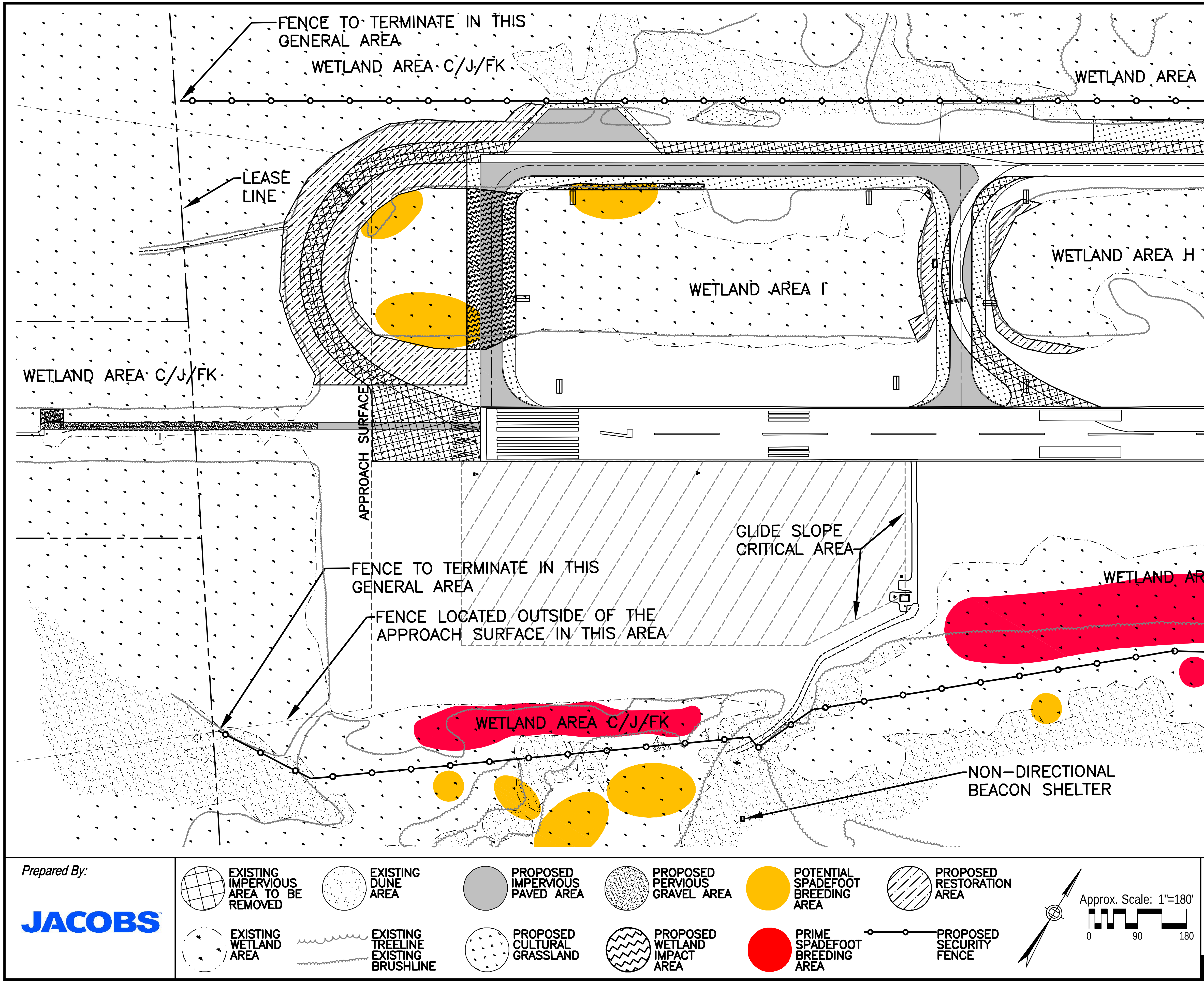
Capital Improvements Plan

FENCE DETAILS

Figure 6.7


FENCE TO TERMINATE IN THIS GENERAL AREA
WETLAND AREA C/J/FK
WETLAND AREA C
LEASE LINE
WETLAND AREA I
WETLAND AREA H
SEE FIGURE 6.9
MATCHLINE
WETLAND AREA C/J/FK
APPROACH SURFACE
GLIDE SLOPE CRITICAL AREA
FENCE TO TERMINATE IN THIS GENERAL AREA
FENCE LOCATED OUTSIDE OF THE APPROACH SURFACE IN THIS AREA
WETLAND AREA L
WETLAND AREA C/J/FK
NON–DIRECTIONAL BEACON SHELTER
EXISTING IMPERVIOUS AREA TO BE REMOVED
EXISTING DUNE AREA
PROPOSED IMPERVIOUS PAVED AREA
PROPOSED PERVIOUS GRAVEL AREA
POTENTIAL SPADEFOOT BREEDING AREA
PROPOSED RESTORATION AREA
EXISTING WETLAND AREA
EXISTING TREELINE
EXISTING BRUSHLINE
PROPOSED CULTURAL GRASSLAND
PROPOSED WETLAND IMPACT AREA
PRIME SPADEFOOT BREEDING AREA
PROPOSED SECURITY FENCE
Approx. Scale: 1"=180'
0
90
180

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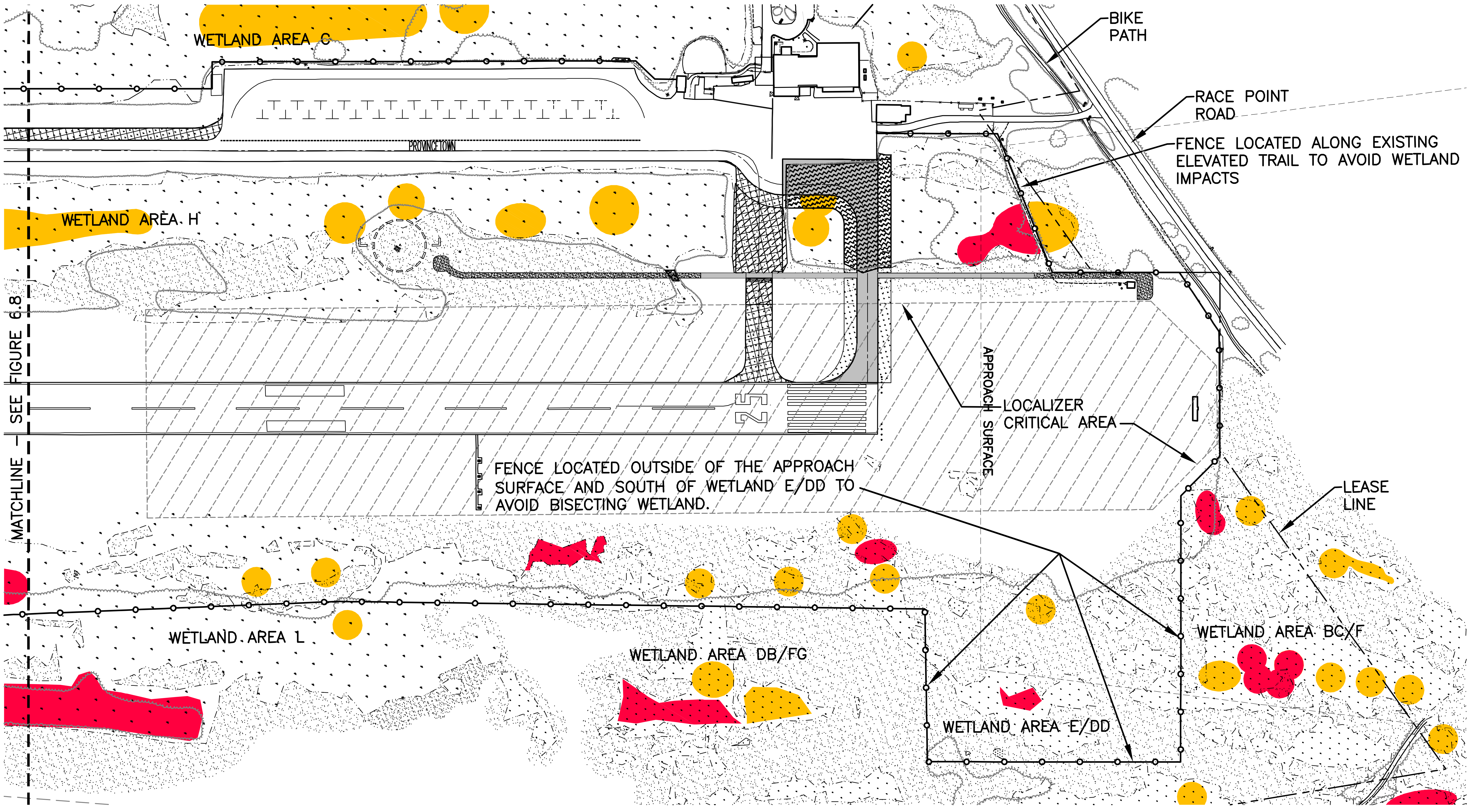
Provincetown Municipal Airport
Capital Improvements Plan

FENCE PLAN - WEST END

Figure 6.8


BIKE PATH
RACE POINT ROAD
FENCE LOCATED ALONG EXISTING ELEVATED TRAIL TO AVOID WETLAND IMPACTS
WETLAND AREA C
WETLAND AREA H
PROVINCETOWN
25
APPROACH SURFACE
LOCALIZER CRITICAL AREA
FENCE LOCATED OUTSIDE OF THE APPROACH SURFACE AND SOUTH OF WETLAND E/DD TO AVOID BISECTING WETLAND.
LEASE LINE
MATCHLINE – SEE FIGURE 6.8
WETLAND AREA L
WETLAND AREA DB/FG
WETLAND AREA E/DD
WETLAND AREA BC/F
EXISTING IMPERVIOUS AREA TO BE REMOVED
EXISTING WETLAND AREA
EXISTING DUNE AREA
EXISTING TREELINE
EXISTING BRUSHLINE
PROPOSED IMPERVIOUS PAVED AREA
PROPOSED CULTURAL GRASSLAND
PROPOSED PERVIOUS GRAVEL AREA
PROPOSED WETLAND IMPACT AREA
POTENTIAL SPADEFOOT BREEDING AREA
PRIME SPADEFOOT BREEDING AREA
PROPOSED RESTORATION AREA
PROPOSED SECURITY FENCE
Approx. Scale: 1"=180'
0
90
180

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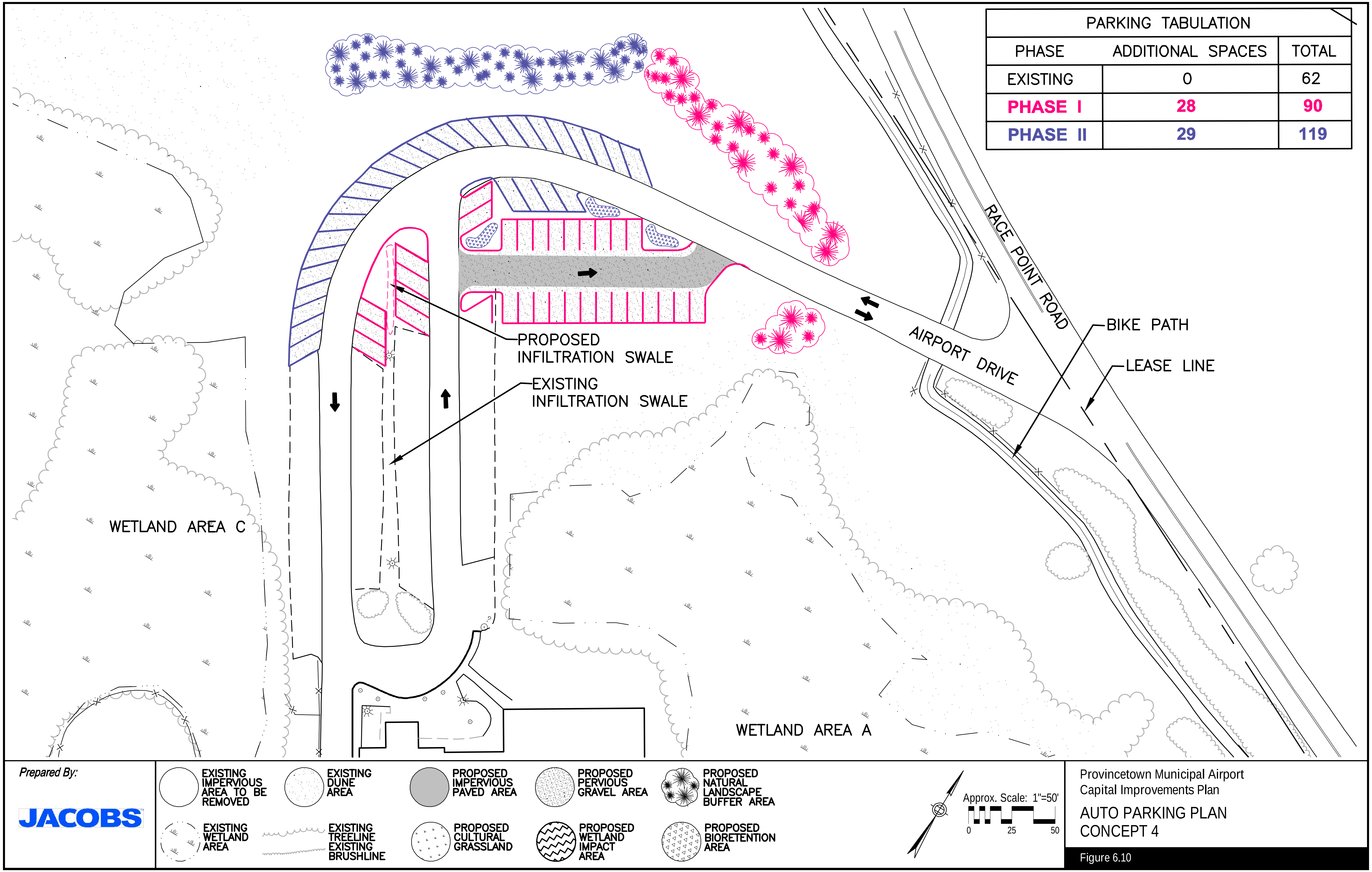
Provincetown Municipal Airport
Capital Improvements Plan

FENCE PLAN - EAST END

Figure 6.9


RACE POINT ROAD
AIRPORT DRIVE
BIKE PATH
LEASE LINE
PROPOSED INFILTRATION SWALE
EXISTING INFILTRATION SWALE
WETLAND AREA C
WETLAND AREA A
Prepared By:
JACOBS
EXISTING IMPERVIOUS AREA TO BE REMOVED
EXISTING DUNE AREA
PROPOSED IMPERVIOUS PAVED AREA
PROPOSED PERVIOUS GRAVEL AREA
PROPOSED NATURAL LANDSCAPE BUFFER AREA
EXISTING WETLAND AREA
EXISTING TREELINE
EXISTING BRUSHLINE
PROPOSED CULTURAL GRASSLAND
PROPOSED WETLAND IMPACT AREA
PROPOSED BIORETENTION AREA
Approx. Scale: 1"=50'
0
25
50

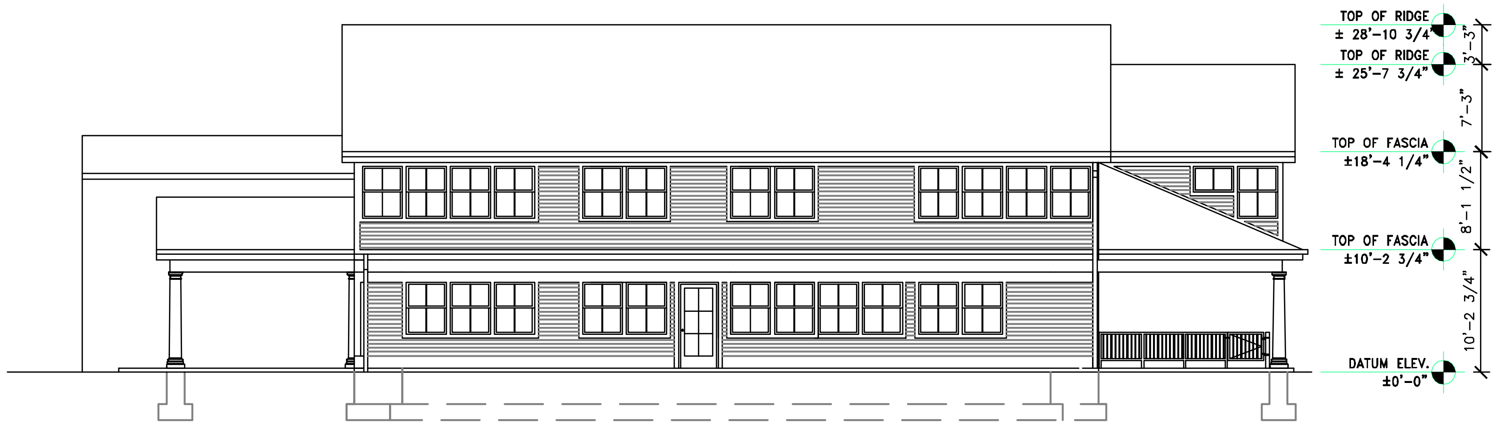
PARKING TABULATION

PHASE	ADDITIONAL SPACES	TOTAL
EXISTING	0	62
PHASE I	**28**	**90**
PHASE II	**29**	**119**

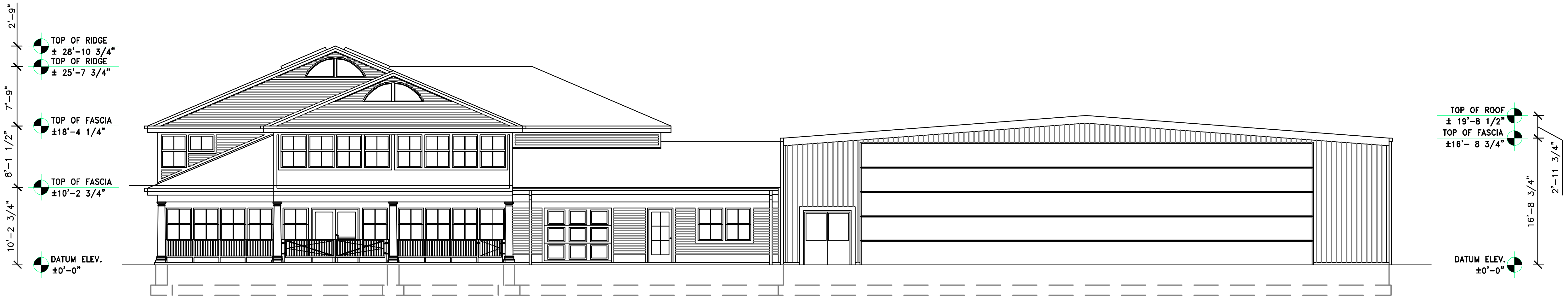
Provincetown Municipal Airport
Capital Improvements Plan

AUTO PARKING PLAN
CONCEPT 4

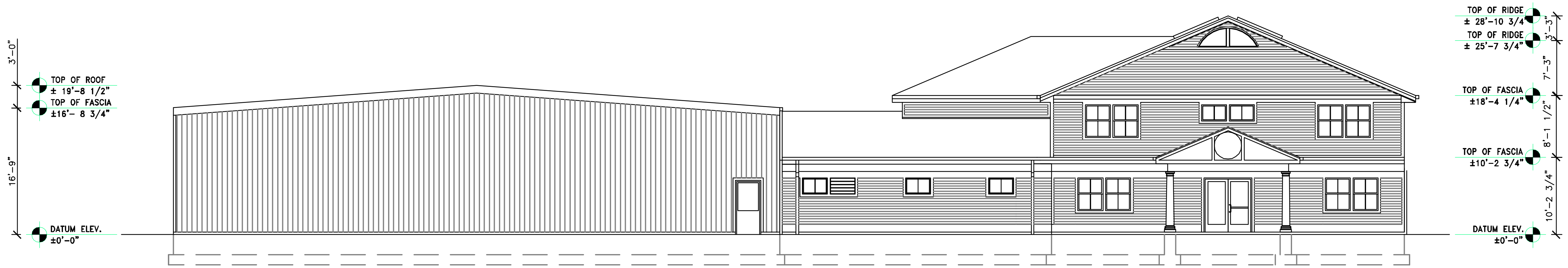
Figure 6.10



VERTICAL CONCEPT 2
WEST ELEVATION



VERTICAL CONCEPT 2
SOUTH ELEVATION



VERTICAL CONCEPT 2
ENTRY – NORTH ELEVATION

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Approx. Scale: 1/16"=1'

0 8 16

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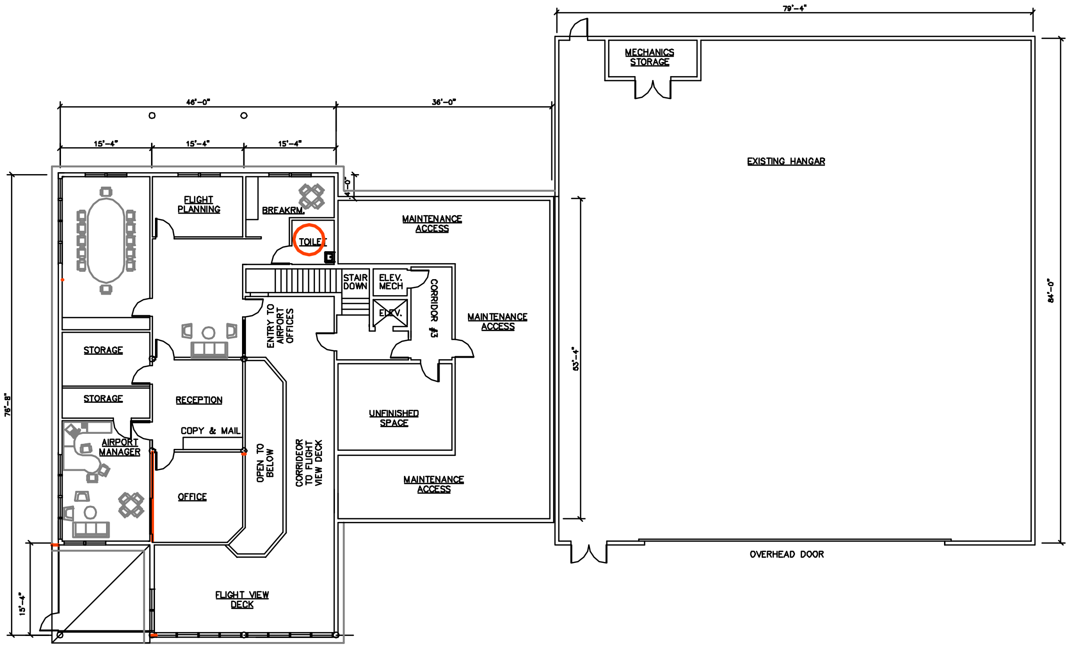
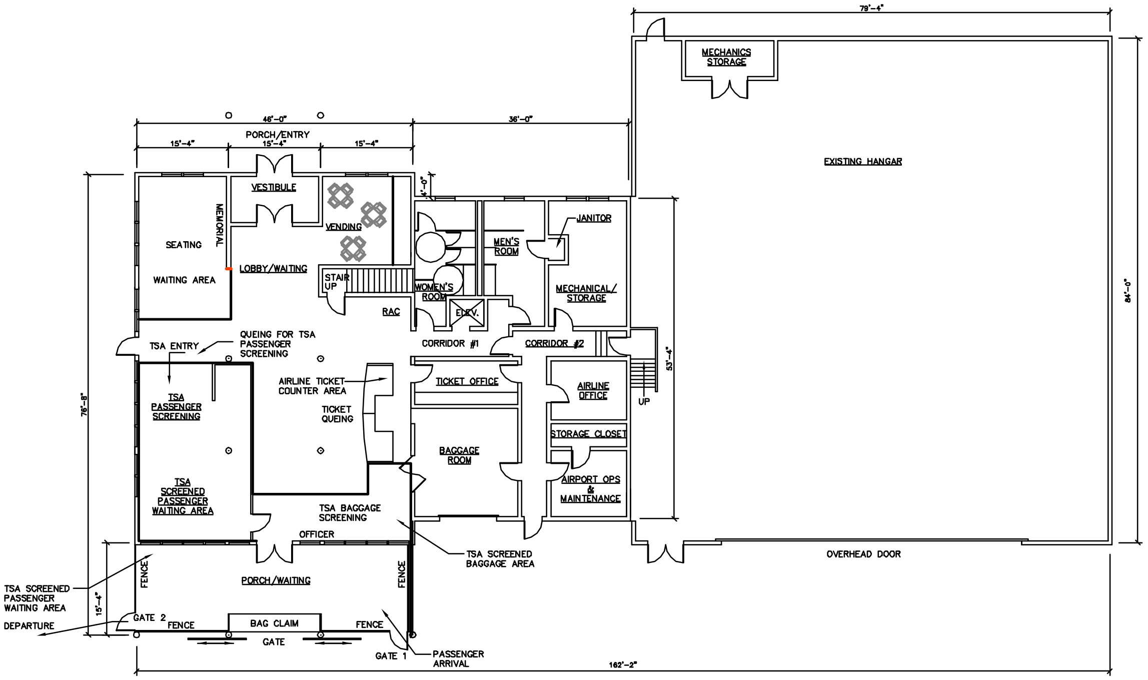
Capital Improvements Plan

AIRPORT TERMINAL BUILDING
VERTICAL CONCEPT 2 ELEVATIONS

Figure 6.11



VERTICAL BUILD OUT PLAN –CONCEPT 2
UPPER LEVEL



VERTICAL BUILD OUT PLAN –CONCEPT 2
MAIN LEVEL

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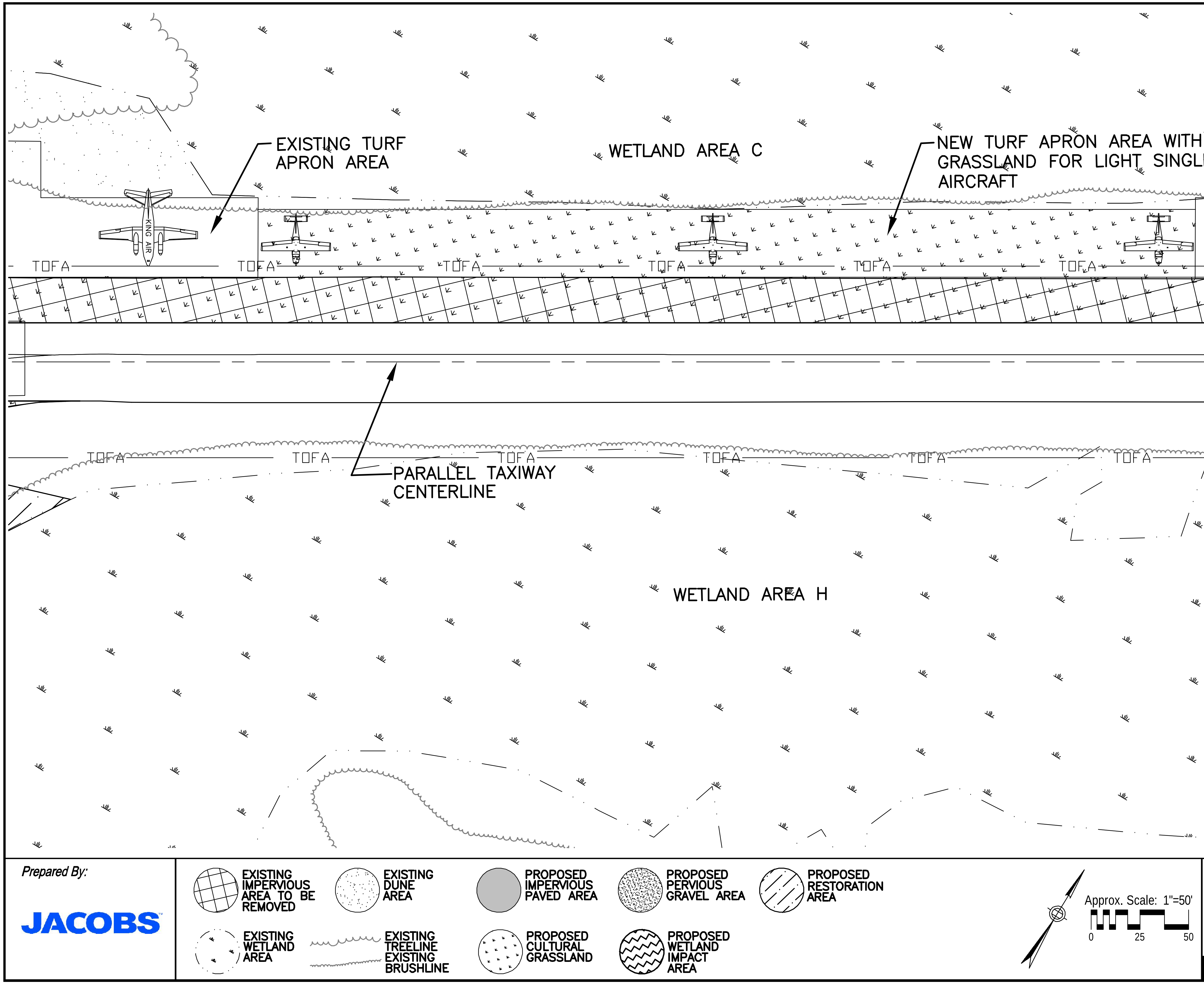
Approx. Scale: 1/32"=1'

0 16 32

Provincetown Municipal Airport
Capital Improvements Plan

AIRPORT TERMINAL BUILDING
VERTICAL CONCEPT 2 PLAN VIEWS

Figure 6.12


EXISTING TURF APRON AREA
WETLAND AREA C
NEW TURF APRON AREA WITH CULTURAL GRASSLAND FOR LIGHT SINGLE ENGINE AIRCRAFT
EXISTING TURF APRON AREA
KING AIR
KING AIR
TOFA
PARALLEL TAXIWAY CENTERLINE
EXISTING TAXIWAY PAVEMENT TO BE REMOVED
WETLAND AREA H
EXISTING IMPERVIOUS AREA TO BE REMOVED
EXISTING DUNE AREA
PROPOSED IMPERVIOUS PAVED AREA
PROPOSED PERVIOUS GRAVEL AREA
PROPOSED RESTORATION AREA
EXISTING WETLAND AREA
EXISTING TREELINE
EXISTING BRUSHLINE
PROPOSED CULTURAL GRASSLAND
PROPOSED WETLAND IMPACT AREA
Approx. Scale: 1"=50'
0
25
50

Prepared By:

JACOBS

Provincetown Municipal Airport
Capital Improvements Plan

TURF APRON PLAN

Figure 6.13

SECTION 7.0 MITIGATION PLANS

As noted in previous sections, impacts to freshwater and coastal resource areas would occur with the implementation of the CIP projects. These include impacts to freshwater isolated and bordering vegetated wetlands, impacts to coastal dunes, and potential impacts to rare species habitat. The following section discusses proposed mitigation measures, which include both on-site restoration of wetlands as well as on-site wetland enhancements, creation of coastal dune habitat, implementation of invasive species management plans, standard construction procedure controls, and implementation of BMPs, intended to mitigate for unavoidable direct and indirect adverse impacts to natural resources at the Airport and within the Park. Mitigation also includes past mitigation efforts provided through the Hatches Harbor Saltmarsh Restoration Project ("Hatches Harbor Project") in accordance with the April 28, 1997 Memorandum of Understanding between NPS and the Town of Provincetown and as reiterated in the November 5, 2010 letter from NPS to FAA. The Hatches Harbor Project, implemented in the early 2000s, included a substantial restoration effort of salt marsh and freshwater wetland habitat.

It should be noted that the terms wetland mitigation, restoration, replacement, and replication are used interchangeably in this document. It is recognized that these terms have different regulatory significance for DEP, ACOE, NPS, and the CCC. The specific permit applications to DEP, ACOE, and CCC will use the required terms.

The following mitigation plans are intended to address the various regulatory requirements as well as address impacts to Park resources.

7.1 Wetland Mitigation Plan

Wetland Restoration and Enhancement Overview

As discussed in Sections 5.0 and 6.0, several of the CIP projects, including the Westerly Taxiway System Improvements, the East End Taxiway Improvements, improvements to the access roadway for the MALSF approach lights, construction of the service road to the AWOS, and installation of the Perimeter Safety/Security Fence, will result in unavoidable alterations to freshwater wetlands (isolated and/or bordering vegetated wetlands) from both direct alteration to wetlands and from indirect (secondary) alterations associated with the long-term maintenance along the fence (see Table 5-3 for a summary of resource impacts). The majority of alterations involving direct fill of wetlands will generally occur within isolated wetlands (PEM, PSS), while alterations resulting from the cutting and long-term maintenance of vegetation will occur in both isolated and bordering vegetated wetlands (PEM, PSS and PFO). Wetland impacts have been avoided and minimized to the extent practicable in accordance with the Wetlands Protection Act Regulations, the regulations under the Provincetown Wetlands Protection Bylaw, as well as the regulations for Water Quality Certification (WQC), and ACOE Compensatory Mitigation guidance, as discussed in Sections 3.0 and 5.0.

The Airport proposes to mitigate for unavoidable alterations to wetlands by providing a combination of on-site wetland restoration and wetland enhancement. On-site wetland restoration will be provided in areas where existing impervious surfaces and fill will be removed. Relocation of the West End TW and East End TW and subsequent reduction of the existing paved areas for the parallel TW and Runway 7 would allow for wetland restoration within the footprint of existing developed and paved areas. Mitigation would create a total of approximately 78,000 SF of restored isolated wetlands (shrub swamp) at the Airport in two locations (Mitigation Areas A and C). Mitigation Area A (64,000 SF of restored freshwater wetland) would be located within the curved footprint of the existing West End TW adjacent to portions of Wetland C/J/FK and contiguous with Wetland I (see Figure 7.1), while Mitigation Area C (14,000 SF of restored freshwater wetland) would be located within the footprint of the existing East End TW, south of the terminal apron and contiguous with Wetland H, as shown on Figure 7.2. A third mitigation area (Mitigation Area B) would be located adjacent to the access road to the approach lights and southwest of the (abandoned) West End TW. Mitigation Area B would be contiguous with Wetland C/J/FK and would create approximately 5,000 SF of restored BVW. Each of these areas is highly suitable for wetland restoration due to their proximity to existing wetlands and the existing shallow groundwater table.

On-site wetland enhancement will involve the management of *Phragmites australis*, an invasive species in Massachusetts. Enhancement activities would occur within discrete isolated wetlands where no work is otherwise proposed. Enhancement is designed to improve the ability of these wetlands to provide functions and values similar to those wetlands not currently impacted by invasive species at this site. Opportunities for freshwater wetland enhancement have been identified within 616,350 SF (approximately 14.1 ac) of wetland areas currently supporting *Phragmites* populations of varying density.

ACOE Requirements

Wetland mitigation is proposed at greater than 1:1 ratios on-site in order to address the recommendations of the various permitting agencies. For instance, the ACOE recommends in their "*New England District Compensatory Mitigation Guidance*" (Draft, December 2009) that compensatory mitigation for direct impacts to scrub-shrub wetlands and forested wetlands (waters of the U.S.) be provided at 2:1 and 3:1 ratios, respectively. Enhancement (or rehabilitation) of these types of wetland areas is recommended at ratios between 3:1 and 10:1. Given the existing site constraints, on-site wetland restoration for isolated and bordering freshwater wetlands, made possible through the removal of impervious surfaces, will be provided at an approximately 1:1 ratio for direct fill projects. At the suggestion of ACOE staff during an interagency on-site meeting in April 2010, additional mitigation is proposed in the form of on-site wetland enhancement in order to approach the recommended 2:1 to 3:1 mitigation ratios for direct freshwater wetland impacts, as well as to mitigate indirect (secondary) impacts associated with the proposed fence. Preliminary discussions with other stakeholder regulatory agencies indicate that this practice would be appropriate to mitigate for lost wetlands functions and values associated with proposed projects at this site and to address the various mitigation requirements of the regulatory agencies. Freshwater wetland enhancement is proposed at a 7:1 ratio, to be provided in two discrete freshwater wetland areas (Wetlands H and I), also at the suggestion of ACOE staff during an interagency on-site meeting in April 2010. A summary of all proposed mitigation for the CIP projects is provided below.

NPS/CCNS Requirements

NPS frequently requires additional off-site mitigation to address wetland protection procedures and fully address the objectives of the CCNS management plan. As stated in the NPS letter of November

5, 2010, CCNS staff has acknowledged the Airport's past financial participation (funding 20 percent of the restoration efforts) in the Hatches Harbor Saltmarsh Restoration Project and has determined that this "can be applied as off-site mitigation for activities covered in the current Capital Improvements Plan." Therefore the requirement for additional off-site mitigation will be met by the Hatches Harbor Restoration Project.

CCC Requirements

In addition to direct wetland mitigation efforts, the CCC recognizes measures to restore altered or degraded inland and coastal wetlands, as well as alternative mitigation measures to meet the Minimum Performance Standards (MPS) under their 2009 Regional Policy Plan (RPP). These measures include construction of artificial wetlands for stormwater treatment, and implementation of wetland enhancement through management of invasive species. These additional mitigation measures are included in the mitigation for the CIP projects, including the incorporation of a bioretention system for the auto parking area and management of invasive species within certain areas of natural resources.

Wetland restoration proposed at the Airport is described in the following text and shown on Figures 7.1 and 7.2 in this section. Mitigation ratios are based upon regulatory guidance and comments received from various resource agencies during the preparation of the FEIR/EA. Table 5-3 in Section 5 summarizes the direct resource impacts and the mitigation ratios.

Wetland Mitigation Methodology

The following mitigation plan for wetland mitigation has been developed based on the Massachusetts Inland Wetland Replication Guidelines (March 2002) prepared by the Massachusetts DEP, as well as the performance standards for wetland replacement in accordance with the Massachusetts Wetlands Protection Act Regulations at 310 CMR 10.55(4)(b)(1 though 7), the Town of Provincetown Wetlands Bylaw (Chapter 12 of the General By-Laws of Provincetown), and the April 2008 federal Compensatory Mitigation Rule, as well as the more recently issued draft proposed Revision of New England District Compensatory Mitigation Guidance prepared by ACOE.

Wetland restoration activities will generally involve removal of existing pavement and gravel sub-base, excavation to appropriate sub-grade to intercept existing hydrology, planting of native wetland vegetation and over-seeding with a native seed mixture to stabilize disturbed soils, and implementation of monitoring plans to ensure the successful establishment of a wetland plant community. A qualified wetland scientist with experience in wetland creation or restoration will oversee all aspects of the wetland restoration efforts. Draft details of these activities are provided below.

Site Preparation, Excavation, and Grading of Mitigation Areas

Prior to the commencement of any mitigation activities, a sedimentation and erosion control barrier, such as staked siltation fencing will be installed along the wetland boundary to protect the adjacent areas during earth-moving activities and to serve as a limit of work. Following installation of this sedimentation barrier, impervious surfaces (asphalt and gravel sub-base) will be broken apart with heavy equipment, removed, and transported off-site to a suitable disposal facility or else re-used on-site as a sub-base for new impervious surfaces.

Approximately 54,000 SF of impervious surfaces would be removed from the existing West End TW and approximately 26,640 SF from the existing East End TW (with an overall net reduction of approximately 28,000 SF of pavement for all CIP projects), along with removal of areas of grassland that are located immediately adjacent to the wetland areas adjacent to the West End and East End TWs. Successful wetland restoration will require sufficient hydrologic conditions. Specifically, groundwater should be close enough to the surface such that saturated soils exist within one foot of the final elevation during the growing season. These elevations should provide from 4 to 12 or more inches of standing water during the winter and spring, as observed within other seasonally flooded wetland areas at the Airport. As such, the hydrology of the proposed restoration areas will be established to mimic that of the impacted wetlands. The approximate elevations of the adjacent wetlands, Wetlands I and H, are 3.5 to 3.9 feet and 3.8 to 4.6 feet, respectively. Spot elevations along the existing West End Taxiway range from 6.1 to 6.4 feet. Spot elevations along the existing East End Taxiway range from 6.8 to 7.4 feet. The locations selected for the restoration areas are desirable because it is anticipated that these areas will not need to be lowered substantially once the existing pavement and gravel sub-base are removed. Six (6) monitoring wells have been installed to observe groundwater elevations within the existing wetland areas, sited as close as possible to the proposed restoration areas (Mitigation Areas A and C). To date, depth to groundwater measurements have been recorded on two separate dates (September 21, 2007, and April 3, 2008). No appreciable difference in groundwater depth was observed among all six wells, which ranged from elevation 2.6 to 3.2 feet (with no significant storm events preceding the data collection). This suggests that removal of existing impervious materials alone would result in sufficient hydrological conditions within the mitigation areas. Additional depth to groundwater measurements will be taken as necessary, to allow for proper design of the restoration areas, and all restoration activities will be closely tied to on-the-ground survey to ensure that appropriate elevations are reached within the restoration areas in accordance with the design. Figure 7.3 provides a schematic cross section for Wetland Restoration Areas A, B, and C.

It is anticipated that the original soil profile may be intact beneath the impervious surfaces and grassy areas to be removed, and that only minor grading within the restoration areas would be necessary to obtain elevations that would provide suitable hydrology to support a wetland plant community. As such, care will be taken to avoid removal of any original soil materials encountered beneath the impervious surfaces. The rough-graded restoration areas will be allowed to settle for a minimum of 48 hours prior to introducing plants.

Introduction of Wetland Vegetation in Mitigation Areas

Following removal of fill materials, shrubs and herbaceous groundcover will be planted within the restoration areas. All construction other than paving operations will be conducted during the Airport's off season, approximately after the first week of September (Labor Day) and prior to April 15th to minimize disruption to rare species during their most active times of year. However, paving will need to be conducted through May because the asphalt plants typically don't open until the middle of April, making it necessary to be able to pave through May. Restoration activities would occur either during the beginning or the latter part of the growing season for Barnstable County (April 26 to October 23; USDA, 2002), depending on construction timing.

As much as practicable, vegetation within Wetlands I, H, and C/J/FK will be salvaged for re-use in the mitigation areas. This would involve removing large patches of the "lost wetland" with a front-end loader or other suitable machine and introducing these vegetation patches into the mitigation areas, allowing for intact and relatively contiguous patches of established vegetation within the mitigation areas and for greater success in the establishment of the mitigation area plant communities. It is estimated that a portion of the vegetation within impacted areas of Wetland I (approximately 28,000 SF) could be salvaged for reintroduction within Mitigation Area A (or possibly other mitigation areas as appropriate). However, Wetlands C/J/FK and Wetland B currently support *Phragmites* populations of varying densities and may not be suitable for transplantation within the mitigation areas. At this time, it is estimated that up to 75 percent of the vegetation to be impacted could be re-used in the restoration areas to help establish dense native plant communities within the restoration areas. However, salvaging vegetation from these lost areas will need to be field-determined. A more precise estimate of the amount of vegetation within lost areas to be salvaged will be provided during the permitting phase.

Ideally, site preparation for the mitigation areas would occur prior to construction of the new taxiways and MALSF turnaround, such that all impervious surfaces and grassy areas would be removed from the restoration areas and the areas would be excavated to the appropriate grade, at which point salvaged vegetation from the lost areas would be excavated and placed directly into the prepared restoration area(s), minimizing the temporal loss of wetlands during construction. If this construction sequencing proves to be impractical, the smallest possible lag time between construction of the new taxiway entrances and the creation of the mitigation areas is desirable (within a week or two). Under this construction scenario, vegetation from the lost areas would be excavated and stockpiled nearby for later re-introduction within the mitigation area(s). Salvaged plant materials would be covered and maintained (watered) in good condition until the restoration areas have been prepared.

Immediately following the introduction of salvaged vegetation, additional native plant materials possessing native genotypes (i.e., local genetic stock) will be obtained from local nurseries and planted in the mitigation areas to augment the salvaged vegetation. Using local nursery stock will minimize the possibility that plant genotypes from other regions are imported to the area. Augmentation with nursery stock will allow for the immediate establishment of a relatively dense plant community throughout the mitigation area, discouraging encroachment by non-native species. Shrub and herbaceous species obtained from local nurseries will be representative of the existing vegetation communities within the isolated wetlands. Tree species will not be incorporated in the restoration areas because the proposed mitigation areas (as well as the lost areas) occur within obstacle-free areas and need to be maintained by the Airport as low-growing shrub swamp communities.

Proposed shrub species obtained from nursery stock may include arrowwood, highbush blueberry, winterberry, red chokeberry, inkberry, bayberry, meadowsweet, steeplebush, American cranberry, and Virginia rose, or acceptable equivalent species. Shrubs will be planted in clusters of two to three, placed five to six feet on center, while herbaceous species will be planted in masses, 18 to 24 inches on center. It is anticipated that several hundred nursery-grown shrubs and herbaceous plants will be needed to achieve the desired plant density within the mitigation areas. The planting distribution of American cranberry will depend upon the hydroperiod of each area. In shallow ephemeral wetlands, cranberry will be planted at the lowest elevations of the wetland. In deeper, more permanent wetlands, cranberry will be planted along the periphery. The elevation of the restoration plantings will be similar to the existing plant distribution observed within the wetlands at the Airport.

Table 7-1 provides a draft list of planting specifications. Proposed plantings are designed to provide a densely vegetated shrub swamp community. Details of the planting specifications will be refined during the final design and permitting phase and in consultation with various regulatory agencies and ecological experts at NPS.

In addition to nursery-grown shrubs and herbaceous species, a wetland seed mix will be used to stabilize soils within the mitigation areas. A commercially available or custom seed mix that contains native grasses and wildflower species similar to those observed within the existing wetland areas will be used. Species contained within the seed mix may include: switchgrass (*Panicum virgatum*), Virginia wild rye (*Elymus virginicus*), creeping red fescue (*Festuca rubra*), fox sedge (*Carex vulpinoidea*), creeping bentgrass (*Agrostis stolonifera*), soft rush (*Juncus effusus*), New England aster (*Aster novae-angliae*), grass-leaved goldenrod (*Euthamia graminifolia*), nodding bur marigold (*Bidens cernua*), green bulrush (*Scirpus atrovirens*), Joe-Pye weed (*Eupatorium maculatum*), boneset (*Eupatorium perfoliatum*), and blue vervain (*Verbena hastata*).

It is anticipated that removal of existing paved areas will expose the underlying seed bank and rootstock which would contain additional species tolerant of the local ecological conditions. The presence of the underlying seed bank is anticipated to further lend to the successful generation of a wetland plant community within the restored wetland areas. However, certain invasive species, specifically purple loosestrife (*Lythrum salicaria*) and *Phragmites*, are known to have exceptionally long seed dormancy capabilities, more so than most native species. Thus, exposing the seed bank may allow for the germination and establishment of non-native species over native, slower-growing vegetation. As part of the long-term monitoring of the restoration areas, particular attention will be paid to managing emerging non-native species to bolster the success of desired native species.

Table 7-1 Draft Planting List for Wetland Mitigation Areas

Species	Specifications
Arrowwood (*Viburnum dentatum*)	Planted in clusters of 2-3, 5-6 feet on center
Highbush Blueberry (*Vaccinium corymbosum*)	Planted in clusters of 2-3, 5-6 feet on center
Meadowsweet (*Spiraea latifolia*)	Planted in clusters of 2-3, 5-6 feet on center
Bayberry (*Myrica pensylvanica*)	Planted in clusters of 2-3, 5-6 feet on center

Inkberry (*Ilex glabra*)	Planted in clusters of 2-3, 5-6 feet on center
Winterberry (*Ilex verticillata*)	Planted in clusters of 2-3, 5-6 feet on center
Cinnamon Fern (*Osmunda cinnamomea*)	Planted 18-24” on center in masses
Sensitive Fern (*Onoclea sensibilis*)	Planted 18-24” on center in masses
American Cranberry (*Vaccinium macrocarpon*)	Planted in large masses, 6-12” on center
Native Seed Mix	Apply as directed
Source: Summary of Wetland Resource Areas, HWG, April 2007.	

Upon completion of the restoration area plantings, siltation fencing will be placed along the upgradient side of the restoration areas.

As noted above, efforts will be made to plant the mitigation areas near the beginning or the end of the growing season to reduce the dependency on maintenance (e.g., watering) during the anticipated two to three week grow-in period and to ensure greater plant survival.

Wetland Monitoring Program

A qualified wetland scientist with experience in wetland mitigation will be engaged to ensure compliance with the mitigation plan and to make field adjustments when appropriate. This individual will oversee all aspects of the wetland restoration activities including installation of sedimentation control barriers, removal of impervious surfaces and excavation of sub-base materials, excavation of salvaged plant materials, installation of monitoring wells, revegetation, and implementation of a monitoring plan.

During and immediately following the creation of the mitigation areas, monitoring will occur on a weekly basis to ensure the initial establishment of introduced plantings. Following the grow-in period and in accordance with the regulatory guidance, wetland mitigation areas will be monitored twice annually for a minimum of five growing seasons to determine the relative success of the restored wetlands. Semi-annual site inspections conducted during late spring and late summer will include an assessment of the relative health and integrity of the salvaged vegetation and introduced nursery stock, and percent cover of vegetation, percent cover of wetland species. The monitoring will be in compliance with the performance standards under 310 CMR 10.55(4)(b)(1 through 7), the ACOE Compensatory Mitigation Guidance, and the Guidance for the New England District Mitigation Plan Checklist.

In addition to the overall assessment of the monitoring areas, additional data regarding the vegetation will be collected within study plots distributed randomly throughout the mitigation areas to provide data to determine the relative success of the wetland plant communities using scientifically recognized statistical methods. The intent of vegetation sampling is to quantify results in a statistically relevant fashion. Data collected from the study plots will be compared to test plots within nearby undisturbed reference wetlands or else collected within the impacted areas prior to restoration activities as baseline data. Specific measures will be taken during construction and monitoring of wetland restoration areas to discourage establishment of invasive species within the newly disturbed soils, as described in Section 7.3. The monitoring plan will be reviewed by various regulatory agencies and approved during the permitting phase of the CIP projects.

Written reports detailing the findings of each monitoring event will be submitted on an annual basis for five years to the Provincetown Conservation Commission, DEP, ACOE, and the CCC. Monitoring reports will provide details on the assessment of the wetland restoration areas, including any remedial actions recommended or taken during a given year. Photographic documentation will be incorporated within the monitoring reports. DEP, ACOE, and the CCC have established criteria for compliance, and adaptive management measures will be implemented as necessary to ensure the long-term success of the mitigation areas.

7.2 Coastal Dune and Cultural Grassland Mitigation Plan

Several of the CIP projects will result in unavoidable alterations to coastal dunes, including the Westerly TW system improvements, relocation of the East End TW, construction of the access roads to the LES and AWOS, installation of the perimeter fence, and expansion of the auto parking area. Impacts to Cultural Grasslands will occur with the implementation of the Westerly TW system improvements and relocation of the East End TW, as well as installation of the TW lighting and expansion of the turf apron. A discussion of the mitigation measures designed to address these impacts follows.

Unavoidable loss to coastal dune habitats will be mitigated through the creation of additional dune habitat within grass and/or paved areas to be removed. The creation of dune areas in two proposed locations would provide on-site dune mitigation (see Tables 5-3 and 5-4). The details will be refined during the final design and reviewed during the permitting phase of the CIP projects.

Mitigation for direct impacts to coastal dune is proposed as dune creation in two locations along the West End TW adjacent to Wetland C/J/FK, and within a third area established within a portion of the footprint of the abandoned East End TW, south of Wetlands H and B. A total of approximately 27,500 SF of dune will be created in these areas, at a ratio of approximately 0.6:1 to mitigate for direct impacts to costal dunes (see Figures 7.1 and 7.2). Additional measures for coastal dune enhancement in the form of invasive species management are proposed on-site as described in Section 7.3.

Coastal Dune Mitigation Methodology

Coastal Dunes will be created by placing sands in areas formerly occupied by impervious surfaces or grasslands followed by revegetation with pioneer species such as American beachgrass (*Ammophila breviligulata*) to stabilize the sand. Dune habitat will be created with on-site sands (from areas of proposed projects) compatible with existing aeolian sediments at the Airport. If additional material is needed, the contract documents will require that the source of the sand be compatible with existing sediments at the Airport and the source will be certified that it does not contain archaeological resources or non-native plant seeds.

Randomly spaced mounds of sand will be placed at elevations one to three feet above the existing grade, representative of the existing sporadic dune habitat encountered among the coastal interdunal swales at the Airport and within the airfield. The alignment and orientation of the created dunes will also be consistent with the configuration of the existing dune systems that currently run in a series of bands from east to west. In locations where dunes will be created immediately adjacent to restored wetland (Mitigation Areas A and B), the dune area will be created prior to the creation of the wetland mitigation area and a row of siltation fencing will be placed at the toe of the newly created dune area to protect the wetland from sedimentation.

Following the placement of sands, these areas will be planted primarily with American beachgrass and supplemented with additional herbaceous material and low-growing shrubs as observed within undisturbed dune areas interspersed among the isolated wetlands at the Airport. When feasible, vegetation within the existing dune habitat to be impacted will be salvaged and transferred to the created dune habitat. Proposed species to be planted along the lower elevations of the created dunes include switchgrass, beach pea (*Lathyrus japonicus*), beach heather, Virginia rose, and bayberry, or other acceptable equivalents. This assemblage of species will provide wildlife habitat values. Table 7-2 provides a draft list of species and planting specifications for creation of a coastal dune community.

Table 7-2 Draft Plant List for Coastal Dune Creation

Species	Planting Specifications
American Beachgrass (*Ammophila breviligulata*)	1-2 culms, planted 12-18” on center
Beach Heather(*Hudsonia tomentosa*)	1 gal.-24” on center, in clusters
Switch Grass (*Panicum virgatum*)	1 gal.-24” on center
Beach Pea (*Lathyrus japonicus*)	1 gal.-24-30” on center
Virginia Rose (*Rosa virginiana*)	1 gal.-12”-18” on center
Bayberry (*Myrica pensylvanica*)	1 gal., 3-5 ft on center in clusters

Source: Summary of Wetland Resource Areas, HWG, April 2007.

As with the wetland mitigation areas, a qualified professional will oversee all phases of the dune creation to ensure that all dune creation activities are carried out in accordance with the permitted mitigation plan. This individual will have experience in coastal geomorphology or in dune creation, and will make site-specific adjustments during construction to ensure that the resultant coastal dune will function as designed upon full grow-in. A monitoring plan will be developed and implemented to ensure the successful establishment of the created dune communities. Similar to the monitoring plan for wetland mitigation areas, the monitoring plan for the created dune areas will entail annual monitoring and reporting as required by the various regulatory agencies, and will include provisions for identifying any deficiencies and implementation of any corrective measures to ensure the successful establishment of dune habitat.

Cultural Grassland Mitigation Methodology

Areas of Cultural Grassland restoration are shown on Figures 7.1, and 7.2, as well as on Figure 7.4.

Following successful re-establishment of the created grasslands there will be no net loss of this habitat. Creation of Cultural Grassland will generally involve the removal and proper disposal of existing paved surfaces and any gravel sub-base at an off-site facility. Mitigation will include the introduction of a native seed mix, such as the “New England Coastal Salt Tolerant Grass Mix,” or a similar custom seed mix that contains a variety of native grasses that will tolerate coastal conditions. This custom seed mix is commercially available and includes native species similar to those found within the existing Cultural Grasslands at the Airport: Big Bluestem (*Andropogon gerardii*), Canada

Wild Rye (*Elymus canadensis*), Sand Lovegrass (*Eragrostis trichodes*), Creeping Red Fescue (*Festuca rubra*), Switchgrass (*Panicum virgatum*), and Indian Grass (*Sorghastrum nutans*). The seed mix will be applied at the recommended application rate of 35 lbs/acre (1,250 SF/lb) and will be lightly raked in and covered with a light mulching of straw to conserve moisture during germination.

7.3 Invasive Species Integrated Management Plan and Resource Enhancement

Resource enhancement will consist of invasive species management of common reed (*Phragmites australis*), spotted knapweed (*Centaurea biebersteinii),* and purple loosestrife (*Lythrum salicaria*). Each of these invasive plants has caused significant degradation to a myriad of natural communities throughout the country and has cost millions of dollars to manage and/or eradicate. Below is a brief description of each of these species, their growth habits, location at the Airport observed by field biologists, and suggested methods of management based upon studies conducted by research scientists and land managers throughout the U.S. and worldwide. The most appropriate and preferred method of control for each species that ensures greater success in management of these species has been identified and will be treated in compliance with NPS policies on land management and other regulatory agency requirements.

The enhancement plan is in addition to the invasive species management that is required within areas of wetland restoration. Wetland enhancement activities will involve implementation of the preferred management method, overplanting with native species, and long-term monitoring to track the successful regeneration of native plant communities within wetland areas currently supporting populations of *Phragmites.* Figure 7.5 depicts the surveyed locations of existing *Phragmites* populations within the inner airfield. Enhancement activities are proposed within Wetlands H and I.

Common Reed

Common reed, or *Phragmites*, is the predominant and most conspicuous invasive species at the Airport. It is located in many of the freshwater wetlands, at the base of the dune ridge, and within the brackish areas of Hatches Harbor. This tall grass colonizes wetlands and the upper reaches of salt marshes, and is tolerant of a wide range of freshwater and brackish conditions. This species produces a copious seed bank, but spreads predominantly through its extensive root and rhizome (underground stem) system which forms dense mats. This species has flourished within the Hatches Harbor salt marsh system, and is currently being managed within the tidal areas through the efforts of the Hatches Harbor Wetlands Restoration Program. However, this species has also spread within some of the isolated freshwater wetland areas at the Airport, most notably within Wetlands H, I, and B, Wetlands AE and AF among the dunes along the northern lease line, within Wetlands CM and CP in the western corner of the lease line, and within other wetlands to a lesser degree.

Although *Phragmites* provides some wildlife value for a limited number of species, once this non-native genotype has become established at a site, it causes the rapid decline of most other native species found in a given area, drastically reducing wildlife habitat value. This change has been most noticeable in the Hatches Harbor area, where native species were in severe decline due to the infestation of *Phragmites*. It is noted in the literature that areas “invaded by *Phragmites* have excellent potential for recovery” (Marks, 1993), provided that long-term management and monitoring occur.

Evaluation of Management Techniques for Phragmites

Management techniques for common reed include mechanical and/or chemical measures.

Mechanical Control: Mechanical control methods at the Airport will include: 1) cutting to a height of six inches on an annual basis following flower tassel (typically in late July or August) when the plant is supplying most of its nutrients to the rhizomes (underground stems), with care taken to remove and dispose of the cuttings; (currently used in ILS) and 2) flushing with tidal waters, increasing the salinity, and creating a hostile environment for this species (currently used in Hatches Harbor).

Chemical Control: Chemical control has been shown to be very effective in the management of *Phragmites.* One of the more common herbicides used for control of smaller populations of *Phragmites* is glyphosate. This herbicide is applied after tasseling, again, typically in late July or August. The use of glyphosate along with a surfactant (e.g., Rodeo®) allows this herbicide to stick to and be absorbed by the plant. NPS exotic species staff suggests that Rodeo® is much more effective for *Phragmites* control if applied in September, rather than July and August. The "cut-and-drip" (i.e., stem injection) method for controlling *Phragmites* is considered highly effective in managing this species. Likewise, direct hand spraying of the cut stems with hand-held bottles has been demonstrated to be effective in controlling monotypic stands of this species. Herbicide application is most effective when coupled with mechanical controls. Cutting or mowing of stalks two to three weeks following herbicide application and subsequent removal of mowed materials stimulates growth of previously suppressed (native) plants.

Proposed Management Techniques for Phragmites

The Airport proposes an extensive on-site integrated control program to address the populations of *Phragmites* present within Wetland H and I. These areas will be managed using the "cut and drip" method suggested above in September to control the spread of this species within the specified project areas.

Purple Loosestrife

Purple Loosestrife is an opportunistic and aggressive non-native species. Purple loosestrife has been observed in small quantities within Wetland AL, Wetland C, Wetland I, and Wetland C/J/FK, with individuals noted in other more outlying isolated wetland areas at the Airport as well. As with many other invasives, this plant out-competes local native vegetation, reduces native species diversity and wildlife habitat values, and can eliminate food sources, habitat, and cover for waterfowl and other wildlife throughout wetlands. A single mature plant alone has the ability to produce over one million long-lived seeds annually, and is capable of spreading vegetatively through rhizomes.

Evaluation of Management Techniques for Purple Loosestrife

Mechanical Techniques: Managing purple loosestrife depends largely on early detection of this species. Wetland areas where a purple loosestrife population is detected within the first year or two can be managed mechanically through hand pulling or excavation of the entire plant, including the root crown. All parts of the plant must be removed and properly disposed of, since all fragments are able to re-sprout vegetatively. However, it has been shown that more mature populations of purple loosestrife cannot be manually removed, due to the extensive root and rhizome structure. Some land managers have found that larger, more mature populations can be controlled through extensive plowing.

Chemical Techniques: It has been documented that smaller, well-developed populations of purple loosestrife have been successfully managed through the applications of glyphosate. The herbicide management technique can be done during August, when seedlings and parent plants can both be sprayed. Large, dense populations (e.g., monocultures) of purple loosestrife can be sprayed by air or boat and must be combined with a high-intensity management plan which will monitor the treated area, and include provisions for re-application of herbicides as necessary.

Biological Techniques: Some success in managing purple loosestrife populations has been achieved through the introduction of leaf-eating beetles (*Galerucella calmariensis* and *G. pusilla*), whose sole food is purple loosestrife. However, this management technique is only successful with large dense areas of purple loosestrife, since smaller populations of purple loosestrife are unable to support a viable population of the leaf-eating beetles. Given the relatively limited extent of this invasive species at the Airport, biological control of this species is not warranted here.

Proposed Management Techniques for Purple Loosestrife

Mechanical removal of this species has been identified as the preferred management technique. Scattered individuals and small patches of purple loosestrife have been observed in 2005-2007 in Wetlands AL, C, I, and C/J/FK, and possibly within other more outlying isolated wetlands at the Airport. However, the time elapsed between these observations and the implementation of an invasive species management plan may have allowed these plants to spread. A reconnaissance survey will be conducted prior to treatment to confirm the locations. The use of mechanical measures, such as pulling is proposed in specified project areas. As with management of *Phragmites* within the wetland areas, methods for managing purple loosestrife will be incorporated in the full mitigation plan during permitting.

Spotted Knapweed

Spotted knapweed is an aggressive species known for its infestation of croplands and grazing areas. This species produces nearly 1,000 seeds throughout its lifetime, and these seeds may persist in the seedbank for a period of up to five years. Identified as a “likely invasive” species in Massachusetts, spotted knapweed is found at the Airport along the dunes near the northern tip of the Airport lease line and within the dunes surrounding the entrance driveway and parking lot areas. Additional infestations of this species were observed along the bike path adjacent to the northeastern portion of the lease line.

Evaluation of Management Techniques for Spotted Knapweed

Management of spotted knapweed is recommended when there is evidence that this species has established and is expanding in population size. As with other invasive species, potential management techniques for spotted knapweed include both mechanical and chemical measures. Research has shown that areas that have experienced infestations by spotted knapweed and have been treated by these measures eventually recovered and returned to the original native groundcover.

Mechanical Techniques: Mechanical control methods for spotted knapweed include two possible techniques. The first involves removal of this species through digging, a management method that has proven to be very effective in areas with densities of less than 10 plants per square meter. Proper disposal of the excavated plants is essential. This management method would be most appropriate within the coastal dunes along the bike path and adjacent to the Airport parking area. In addition, management of this species could be successful if done in an aggressive manner along the dune ridge at the northern tip of the lease line. The second management method would involve mowing of larger, dense populations of spotted knapweed during the months of April and May, preceding germination, and ultimately reducing the plant populations' ability to successfully produce a seed crop.

Chemical Techniques: The literature indicates two herbicides have been used with varying degrees of success for managing spotted knapweed. These include Picloram and 2,4-D chemicals. Picloram, while successful in preventing germination of seeds within the soil, remains active in the soil for a period of up to four years, and its effects on other, native species are unknown. The herbicide known as 2,4-D is considered only a temporary method of control, since it does not prevent germination of the seeds already in the soil.

Proposed Methods of Control for Spotted Knapweed

Given the location of spotted knapweed at the Airport, the preferred method of control for those populations along the parking area and bike path within the project areas would be mechanical and without the use of herbicides. The Airport will develop a plan for managing this species as part of the suite of mitigation specific to impacts within coastal dunes during final design and permitting.

Revegetation and Monitoring Plan

Following the implementation of a management plan for each of these invasive species, native vegetation will be allowed to re-colonize the area via natural succession. The native communities will be supplemented with additional plantings to facilitate their success and rapid re-colonization. For instance, exposed areas within the coastal dunes that are currently infested with spotted knotweed would be revegetated with American beachgrass, and overplanting with low-growing shrubs such as bayberry. Likewise, supplemental plantings of cranberry or other native shrubs, coupled with over-seeding with a native seed mix, could be utilized to stabilize the soils within wetland areas upon successful controlled management of non-native plants. Permanent plots will be established and recorded for each targeted population to monitor the relative and overall success of the management techniques, along with the long-term stability of the rehabilitated areas in accordance with mitigation plan and permitting requirements.

7.4 Vegetation Management Plan

Critical areas for aviation are managed at the Airport with a schedule for mowing and brush hog cutting as shown on Figure 7.6. At present, grass areas adjacent to the paved surfaces of the runway, taxiways, along the glide slope area and approach areas at the runway ends, and along an approximately 400-foot wide swath of *Phragmites* along the MALSF lights are mowed as needed, typically three to four times annually. Beyond the grass areas, woody vegetation between the taxiways and runway and to the south of the runway is mowed with a brush hog every one to three years to maintain the object-free zone around the critical areas.

The mowing plan was reviewed as requested by NHESP to see if there were any grassland areas outside of the Airport's critical areas that could be mowed on a less-frequent schedule to enhance grassland bird habitat. Given the unique location of the Provincetown Municipal Airport and the small percentage of grassland at the Airport, the mowing schedule under proposed conditions is similar to the current schedule (Figure 7.6) although some of the areas will have shifted slightly.

7.5 Construction Management Plan

All construction other than paving operations will be conducted during the Airport's off season, approximately after the first week of September (Labor Day) and prior to April 15th to minimize disruption to rare species during their most active times of year. However, paving will need to be conducted through May because the asphalt plants typically don't open until the middle of April, making it necessary to be able to pave through May.

A Final Construction Management Plan for Environmental Compliance will be developed during the permitting phase that will include specifics on construction timing and methodology, as well as additional measures designed to protect the natural resources at the Airport prior to, during, and immediately following construction. Elements to be included within the Construction Management Plan would include the following:

- Construction timing;
- Turtle Protection Plan / Rare Species Protection Plan;
- Pre-construction habitat "sweeps" for listed species;
- Construction Methods such as the use of hand equipment, driving of the fence posts with an air compressor and elimination of the concrete footing for the posts, the use of wetland mats ("swamp mats'), designated construction access, stockpile locations, erosion control; and an
- Environmental Monitor schedule for overseeing construction activities.

A Preliminary Construction Management Plan to be developed further during the permitting phase is provided in this Section. Additionally, an outline of special design and construction conditions developed in conjunction with NHESP, specific to the construction of the safety/security fence, is also attached.

7.6 Summary of Proposed Mitigation

As discussed in the previous sections, proposed on-site mitigation for the Provincetown Airport CIP projects include in-kind wetland restoration and enhancement as proposed in order to address the various regulatory requirements for loss of wetland resource areas. Coastal dunes will be mitigated by an invasive species management program, and habitats will be mitigated by construction management and timing. As noted, site constraints limit the potential for on-site mitigation such that these are confined to areas of existing pavement that will be removed for the taxiway projects (see Table 5-2). The presence of invasive species will provide opportunities for on-site wetland restoration and wetland enhancement.

Therefore, the following proposed mitigation has been developed in compliance with several regulations, performance standards, and guidance documents that relate to wetlands, including the Massachusetts Wetlands Protection Act, the Provincetown Wetland Bylaw, Section 401 (Water Quality Certification) and Section 404 (Individual Permit) of the Clean Water Act, and Performance Standards under the CCC.

Draft Mitigation Summary for the Provincetown Airport CIP Projects

Wetlands
- Restoration of IVW – 78,000 SF;
- Creation of BVW – 5,000 SF; and
- Enhancement within IVW – 616,350 SF.

Coastal dunes
- Creation of coastal dunes – 27,500 SF; and
- Invasive Species Management (in coastal dunes).

Cultural Grasslands
- In-kind restoration of Cultural Grasslands – no net loss.

Rare species protection
- Implementation of stormwater management practices;
- Construction management and timing; and
- Long-term vegetation management (to benefit rare species habitat).

Off site Mitigation
- Off site mitigation provided by the Hatches Harbor Saltmarsh Restoration Project.

Preliminary Construction Management Plan for Environmental Compliance (CMP)

Prepared for
Provincetown Municipal Airport

Prepared Pursuant to MEPA DEIR/NPC Certificate No. 13789

Introduction

In compliance with the Secretary's Certificate on the NPC/Draft EIR/EA for the above referenced project, a preliminary CMP has been prepared and included in the FEIR/EA. The projects are currently at the preliminary design phase. The purpose of a CMP is to control and mitigate construction impacts on the environment. Typically a CMP is a requirement included in the contract bid documents and is completed by the selected contractor. A Contractor has not been chosen and it is not possible to produce a detailed CMP.

This document sets out general performance standards and outlines the elements of the CMP. The various elements of the CMP will be refined as project design and permitting go forward. A final CMP will be a requirement of the contract(s) for the CIP projects.

CMP OUTLINE

The following sections will be included in the CMP

1. Project Phasing and Construction Conditions
2. Erosion and Sedimentation Control Plan
3. Safety Security Fence Special Construction Methods
4. Turtle Protection Plan
5. Contingency Plans
6. Monitoring / Agency Coordination
7. List of Project Permits

1. Project Phasing and Construction Conditions

The CIP projects will be constructed in phases as outline in the following table. All construction other than paving operations will be conducted during the Airport's off season, approximately after the first week of September (Labor Day) and prior to April 15th to minimize disruption to rare species during their most active times of year. However, paving will need to be conducted through May because the asphalt plants typically don't open until the middle of April, making it necessary to be able to pave through May. Construction that will take place within sensitive areas will be subject to special construction timing and methods discussed below.

Construction Phasing

CIP Project Element	Construction Year
Reconstruct Terminal Apron	2008--Completed
Westerly Taxiway System Improvements Reconstruct Easterly End of Partial Parallel TW Relocate East End TW Install TW Edge Lights and Construct Electric Vault Sightseeing Shack Improvements	2013
Improve Access Road to Approach Lights (MALSF)	2017
Construct Service Access Roads to AWOS and LES	2017
Install Perimeter Fence	2015
Expand Auto Parking	2014
Expand Terminal Building	2016
Expand Turf Apron	2015

Fill Requirements

Much of the pavement and base material currently on the site will be reused on site. Any material not used will be removed from the site and disposed of in accordance with all state and federal regulations. The contractor will be required to document the disposal of the material. Exact amounts of construction material required will be determined during final design. Pavement mix will likely be brought in from a batch plant in Dennis. Sand will likely be obtained from Truro and the source of base material is off Cape.

Truck Trips

A construction traffic route will be established. It is anticipated that trucks will travel Route 6 to the intersection with race Point Road. No construction truck traffic will impact downtown Provincetown. It is anticipated that at a maximum, there will be approximately 36 truck trips (round trip) a day. Most trucking operations will take place in the "off season". Weekday operations will be between 7 AM and 5 PM. Work on the weekends is not anticipated.

Construction Staging and Access

Access to the site will be from either Airport Drive or the employee parking area access drive. These access locations will be checked during the day and will be broom cleaned if material is being tracked onto Race Point Road.

All stockpiles will be within the construction area. Equipment, construction trailers, and vehicles will be located within the employee parking area or within the construction area. No parking will be allowed on Race Point Road. The limit of work will be identified with high visibility fencing or hay bales.

Dust and Noise Control

Construction equipment using internal combustion engines will be muffled with the equipment manufacturer's muffler or with one providing similar sound suppression.

A water truck will be available to control dust.

2. Erosion Sedimentation (E/S) Controls

The selected Contractor will be required to prepare a specific Storm Water Drainage Protection and Erosion-Sedimentation Control Plan for each project element. The plans will include storm drain inlet protection measures, spill prevention and control, housekeeping practices, and wetland protection measures. The plan will be reviewed and approved by the Resident Engineer after consultation with the Environmental Monitor and permitting agencies.

All finished graded slopes will be protected from erosion using erosion matting and hydro seeding with an approved native seed mix. Storm drain inlets will be protected from sedimentation. Silt fencing and wood chip bags will be used to retain sediment and protect wetland areas. Hay bales that could introduce invasive species will not be used.

3. Safety Security Fence Special Construction Methods

An operational mitigation plan will be developed for the safety/security fence to repair any blocked wildlife gaps due to shifting sands or vegetation.

4. Rare Species Protection Plan

A Turtle Protection Plan for construction will be developed in final detail in response to permit requirements and will be included in the contract documents for the specific project elements.

Construction will take place in accordance with NHESP agency avoidance dates. Clearing and construction of the fence will take place during late fall and through the winter, weather permitting.

The following outline indicates the general measures that could be carried out.

- Environmental Monitor
- Worker training on turtle identification and relocation protocol
- Protocol for turtle relocation out of construction zone
- Installation of erosion control / turtle barriers to define construction zone
- Pre-construction turtle survey and removal of individuals out of construction zone
- Daily worksite inspection of barrier and area around parked construction vehicles
- Timing of Construction.

5. Contingencies

A Spill Control Plan will be developed and materials will be on-site to address any incidents. An erosion control plan will be implemented and material will be on-site to repair and maintain erosion controls.

6. Monitoring / Agency Coordination

Contact List; To be completed

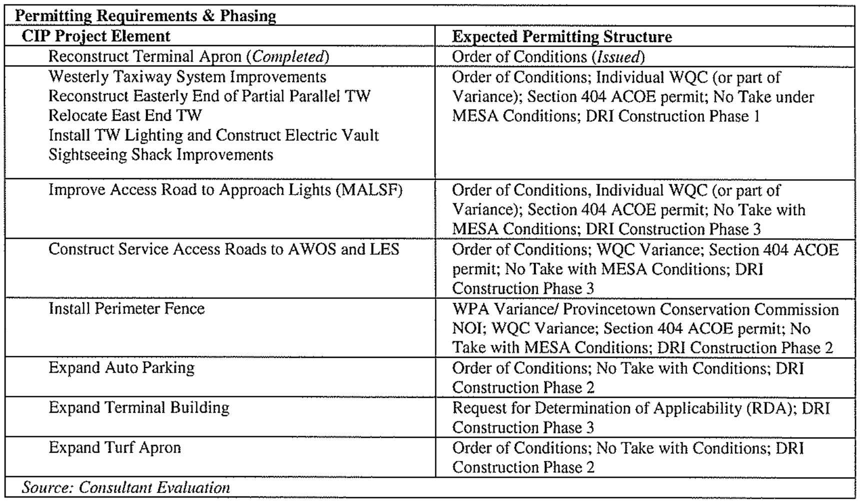
Reporting Schedule: To be completed

Airfield Operations Management
The Airport Manager will be in charge of overall construction activities to maintain safe airfield operations.

Resident Engineer
The Resident Engineer will be the contact person and will coordinate all activities associated with the project and environmental compliance.

Environmental Monitor
In compliance with permit requirements, an Environmental Monitor will be on-site

7. List of Project Permits



Permitting Requirements & Phasing

CIP Project Element	**Expected Permitting Structure**
Reconstruct Terminal Apron (*Completed*)	Order of Conditions (*Issued*)
Westerly Taxiway System Improvements Reconstruct Easterly End of Partial Parallel TW Relocate East End TW Install TW Lighting and Construct Electric Vault Sightseeing Shack Improvements	Order of Conditions; Individual WQC (or part of Variance); Section 404 ACOE permit; No Take under MESA Conditions; DRI Construction Phase 1
Improve Access Road to Approach Lights (MALSF)	Order of Conditions, Individual WQC (or part of Variance); Section 404 ACOE permit; No Take with MESA Conditions; DRI Construction Phase 3
Construct Service Access Roads to AWOS and LES	Order of Conditions; WQC Variance; Section 404 ACOE permit; No Take with MESA Conditions; DRI Construction Phase 3
Install Perimeter Fence	WPA Variance/ Provincetown Conservation Commission NOI; WQC Variance; Section 404 ACOE permit; No Take with MESA Conditions; DRI Construction Phase 2
Expand Auto Parking	Order of Conditions; No Take with Conditions; DRI Construction Phase 2
Expand Terminal Building	Request for Determination of Applicability (RDA); DRI Construction Phase 3
Expand Turf Apron	Order of Conditions; No Take with Conditions; DRI Construction Phase 2

Source: Consultant Evaluation

Installation of Safety Security Fencing
Preliminary Outline of
Special Design and Construction Conditions

The following is a preliminary discussion of construction conditions that would be incorporated into the Contract Documents and Specifications for Installation of Safety Security Fencing.

Design Phase Details

The chain-link metal fabric and posts will be black polyvinylchloride (PVC) coated steel. The fabric height will be 8 feet, topped with 3 strands of barbed wire for total height of 9 feet. The posts are placed 10 feet apart to form 10 foot bays.

A typical fence design detail is shown in Figure 6.7 (taken from the EIR/EA/DRI document) and includes a 3 foot deep concrete footing with a 1 to 4 inch space between the bottom tension wire and the ground.

Special design details for the fence located within sensitive areas such as wetland or coastal dune areas have been developed. Figure 6.7 also illustrates the detail for the bottom tension wire to provide rare species passage and fence posts that are driven to depth with no excavation for a concrete footing.

The number and location of these rare species passages will be identified on the construction plans after consultation with permitting agencies

Construction Phase Details

During active construction there will be an Environmental Monitor (EM) on site.

Prior to the start of construction, all construction crews will be provided with environment awareness training that will include Box Turtle and Spadefoot identification and management procedures as outlined in the Species Protection Plans. The training will also include Best Management Measures that must be used to protect wetlands and the fragile coastal dune ground surface.

The fence alignment will be surveyed and marked in the field. The limits of clearing will also be marked in the field. Clearing for the fence alignment will be done only with hand equipment or small equipment approved by the EM and Resident Engineer (RE). If possible clearing will be done during winter months on frozen ground. Grubbing will not be allowed; stock piling of wood chips will not be allowed. All vehicles will be equipped with low ground pressure tires. If ground conditions are not suitable for machinery, hand clearing will be done as determined by the RE. Brush mats or swamp mats will be used to protect the surface. Removal of clearing waste will be done in a way that does not disturb the ground surface. No material can be buried.

determined by the RE. Brush mats or swamp mats will be used to protect the surface. Removal of clearing waste will be done in a way that does not disturb the ground surface. No material can be buried.

Access routes for the fence will be identified on the plans. No other access will be allowed unless approved by the RE and EM. Equipment and vehicles will be removed from the fence alignment overnight and checked for leaks at the start of the day. All equipment used during construction of the fence will be placed on pads or within containers to contain any spills or leaks. For example, a small compressor used to drive the fence posts could be placed in a child's swimming pool for containment.

To minimize impacts within wetlands and coastal dune areas, fence posts will be driven to a minimum of 6 feet. Only hand held and small equipment will be allowed in these areas. A typical pneumatic post driver is shown in the attached photo. All equipment will be lightweight, have wide tires or other features to provide low ground pressure. Swamp mats will also be used to support any equipment such as air compressors.

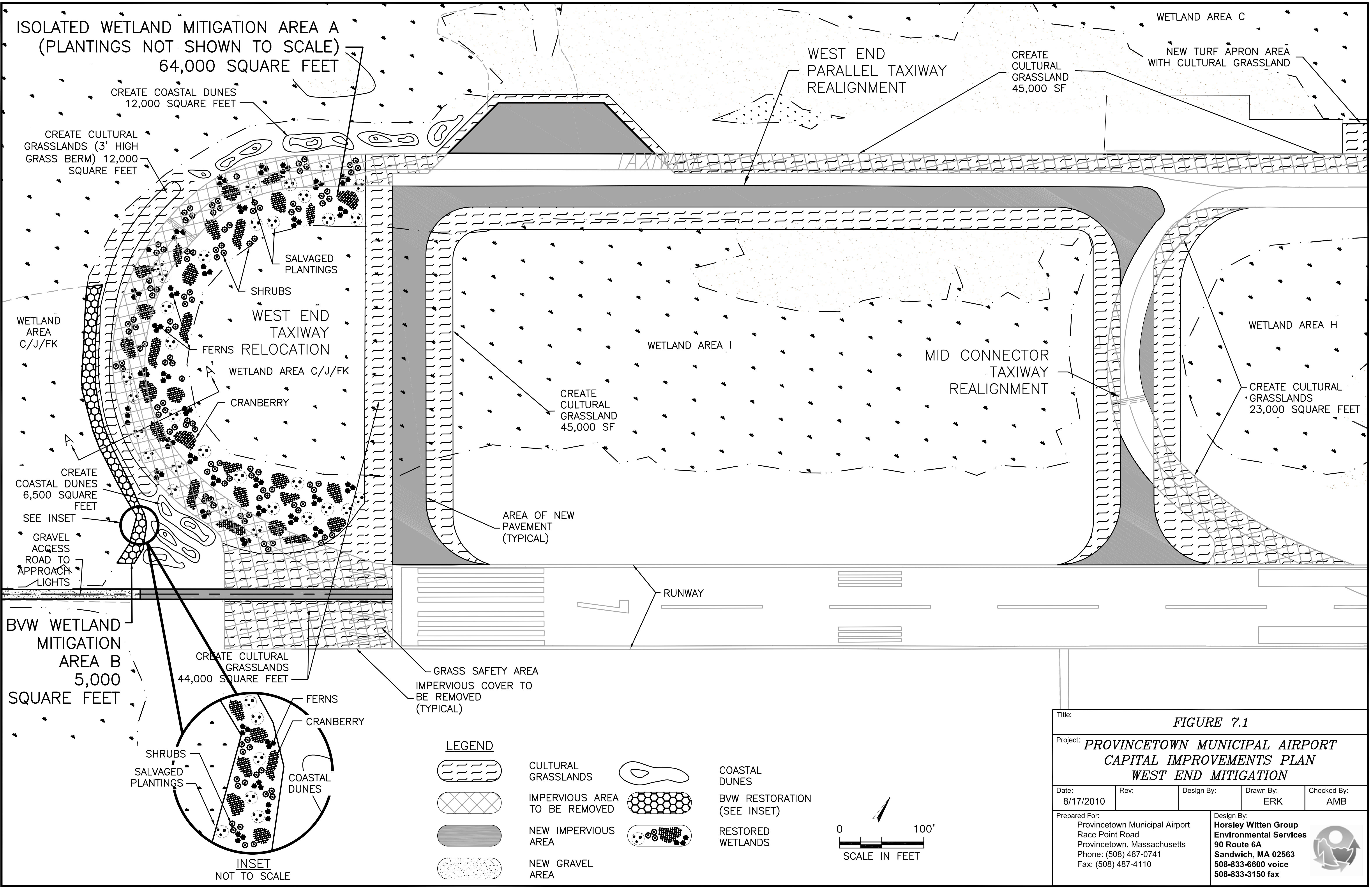
Where excavation for a footing is specified, such as areas near the terminal, fuel storage, parking etc., excavated soils will be placed on a tarp or within a container, and not directly on the ground. Any soil not used for backfill will be carried away and not spread on the existing ground.

Fence Operational Mitigation Plan

A plan will be developed that shows the locations of the rare species passage bays. The bays will also be permanently marked in the field (permanent tag at the top of the fence bay) for easy location.

The gaps will be inspected annually in the early spring. A schedule for inspection (and repair if necessary) of the rare species passage bays will be developed after consultation with resource agencies.

The clear area on either side of the fence will be cut with a brush hog every 1 to 3 years as necessary.


ISOLATED WETLAND MITIGATION AREA A
(PLANTINGS NOT SHOWN TO SCALE)
64,000 SQUARE FEET
CREATE COASTAL DUNES 12,000 SQUARE FEET
CREATE CULTURAL GRASSLANDS (3' HIGH GRASS BERM) 12,000 SQUARE FEET
SALVAGED PLANTINGS
SHRUBS
WEST END TAXIWAY RELOCATION
FERNS
WETLAND AREA C/J/FK
CRANBERRY
WETLAND AREA C/J/FK
CREATE COASTAL DUNES 6,500 SQUARE FEET
SEE INSET
GRAVEL ACCESS ROAD TO APPROACH LIGHTS
BVW WETLAND MITIGATION AREA B 5,000 SQUARE FEET
CREATE CULTURAL GRASSLANDS 44,000 SQUARE FEET
FERNS
CRANBERRY
SHRUBS
SALVAGED PLANTINGS
COASTAL DUNES
INSET
NOT TO SCALE
WEST END PARALLEL TAXIWAY REALIGNMENT
CREATE CULTURAL GRASSLAND 45,000 SF
WETLAND AREA C
NEW TURF APRON AREA WITH CULTURAL GRASSLAND
WETLAND AREA I
CREATE CULTURAL GRASSLAND 45,000 SF
MID CONNECTOR TAXIWAY REALIGNMENT
WETLAND AREA H
CREATE CULTURAL GRASSLANDS 23,000 SQUARE FEET
AREA OF NEW PAVEMENT (TYPICAL)
RUNWAY
7
GRASS SAFETY AREA
IMPERVIOUS COVER TO BE REMOVED (TYPICAL)
LEGEND
CULTURAL GRASSLANDS
IMPERVIOUS AREA TO BE REMOVED
NEW IMPERVIOUS AREA
NEW GRAVEL AREA
COASTAL DUNES
BVW RESTORATION (SEE INSET)
RESTORED WETLANDS
0
100'
SCALE IN FEET

Title:
FIGURE 7.1

Project:
PROVINCETOWN MUNICIPAL AIRPORT CAPITAL IMPROVEMENTS PLAN WEST END MITIGATION

Date:	Rev:	Design By:	Drawn By:	Checked By:
8/17/2010			ERK	AMB

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Provincetown, Massachusetts
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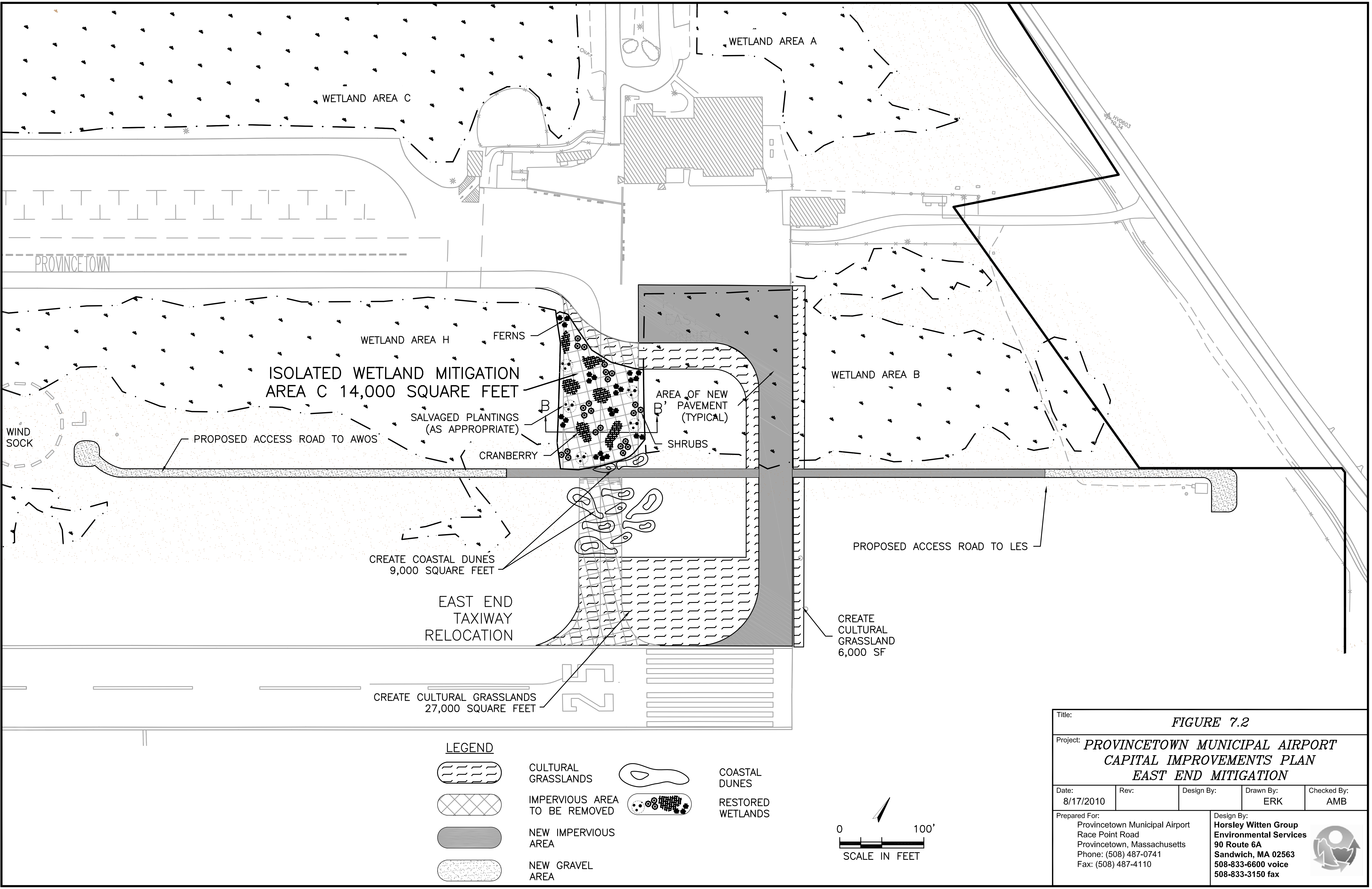
last modified: 08/17/10 printed: 08/19/10 by bk H:\Projects\2004\4027 E&K-PTown Airport\Drawings-4027\dwg\4027-PLANTINGS.dwg

last modified: 08/17/10 printed: 08/19/10 by bk H:\Projects\2004\4027 E&K-PTown Airport\Drawings-4027\dwg\4027-PLANTINGS.dwg


WETLAND AREA A
WETLAND AREA C
WETLAND AREA H
WETLAND AREA B
PROVINCETOWN
FERNS
ISOLATED WETLAND MITIGATION AREA C 14,000 SQUARE FEET
SALVAGED PLANTINGS (AS APPROPRIATE)
CRANBERRY
SHRUBS
B
B'
AREA OF NEW PAVEMENT (TYPICAL)
WIND SOCK
PROPOSED ACCESS ROAD TO AWOS
PROPOSED ACCESS ROAD TO LES
CREATE COASTAL DUNES 9,000 SQUARE FEET
EAST END TAXIWAY RELOCATION
CREATE CULTURAL GRASSLAND 6,000 SF
CREATE CULTURAL GRASSLANDS 27,000 SQUARE FEET
25
LEGEND
CULTURAL GRASSLANDS
IMPERVIOUS AREA TO BE REMOVED
NEW IMPERVIOUS AREA
NEW GRAVEL AREA
COASTAL DUNES
RESTORED WETLANDS
0
100'
SCALE IN FEET

Title: *FIGURE 7.2*

Project: *PROVINCETOWN MUNICIPAL AIRPORT CAPITAL IMPROVEMENTS PLAN EAST END MITIGATION*

Date:	Rev:	Design By:	Drawn By:	Checked By:
8/17/2010			ERK	AMB

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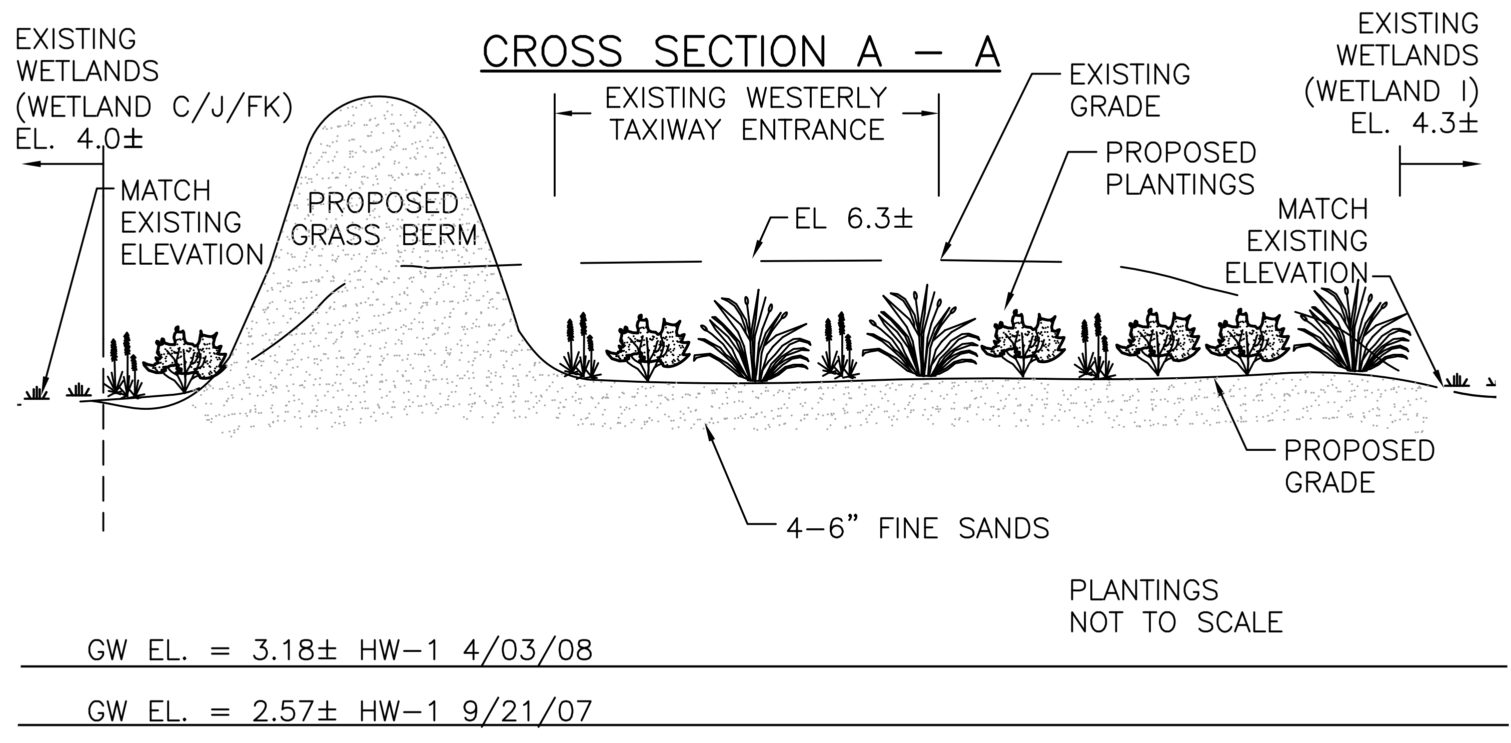
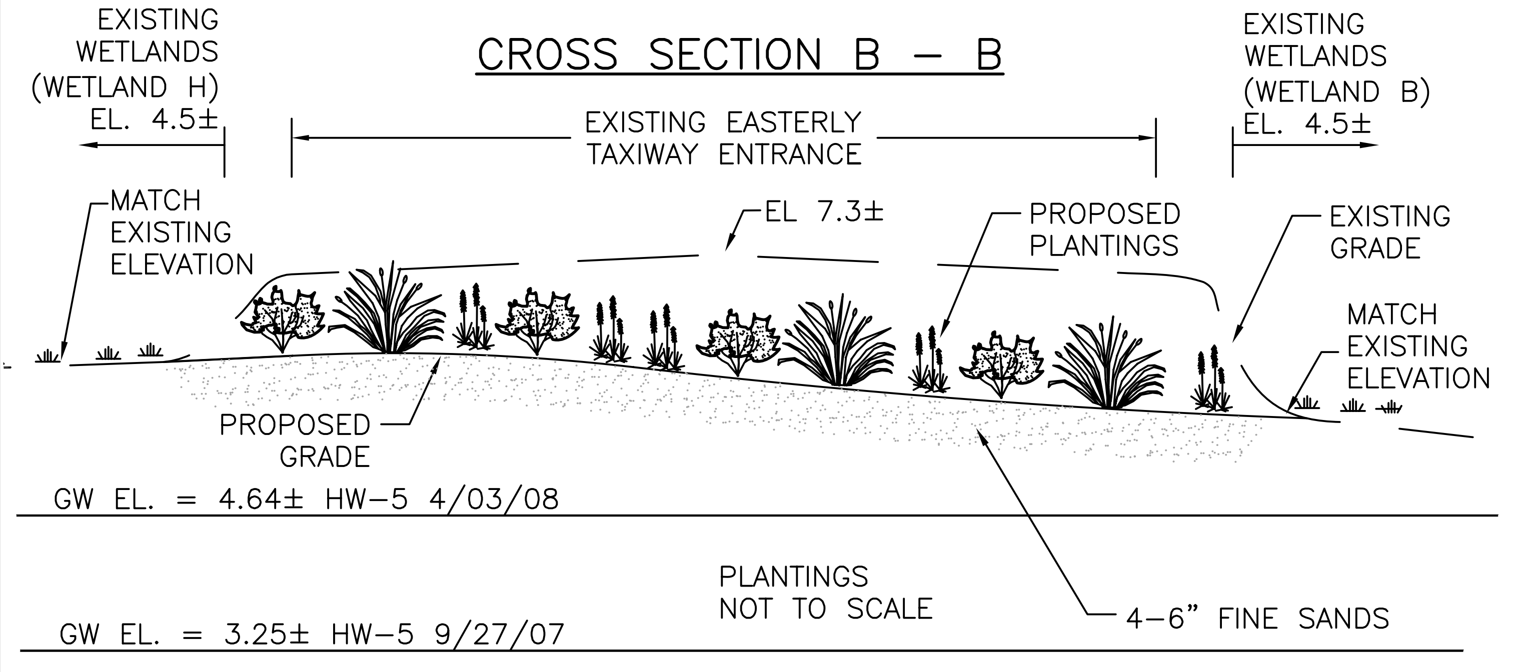
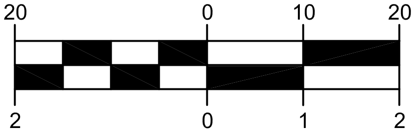
CROSS SECTION A – A


EXISTING WETLANDS (WETLAND C/J/FK) EL. 4.0±
MATCH EXISTING ELEVATION
PROPOSED GRASS BERM
EXISTING WESTERLY TAXIWAY ENTRANCE
EL 6.3±
EXISTING GRADE
PROPOSED PLANTINGS
EXISTING WETLANDS (WETLAND I) EL. 4.3±
MATCH EXISTING ELEVATION
PROPOSED GRADE
4–6" FINE SANDS
PLANTINGS NOT TO SCALE
GW EL. = 3.18± HW–1 4/03/08
GW EL. = 2.57± HW–1 9/21/07

CROSS SECTION B – B


EXISTING WETLANDS (WETLAND H) EL. 4.5±
EXISTING EASTERLY TAXIWAY ENTRANCE
EXISTING WETLANDS (WETLAND B) EL. 4.5±
MATCH EXISTING ELEVATION
EL 7.3±
PROPOSED PLANTINGS
EXISTING GRADE
MATCH EXISTING ELEVATION
PROPOSED GRADE
GW EL. = 4.64± HW–5 4/03/08
PLANTINGS NOT TO SCALE
4–6" FINE SANDS
GW EL. = 3.25± HW–5 9/27/07

GRAPHIC SCALE



Horizontal: 1 inch = 20 ft.
Vertical: 1 inch = 2 ft.

Title:
FIGURE 7.3

Project:
PROVINCETOWN MUNICIPAL AIRPORT
CAPITAL IMPROVEMENTS PLAN
PROVINCETOWN, MASSACHUSETTS

Date:	Rev:	Design By:	Drawn By:	Checked By:
8/17/2010			ERK	AMB

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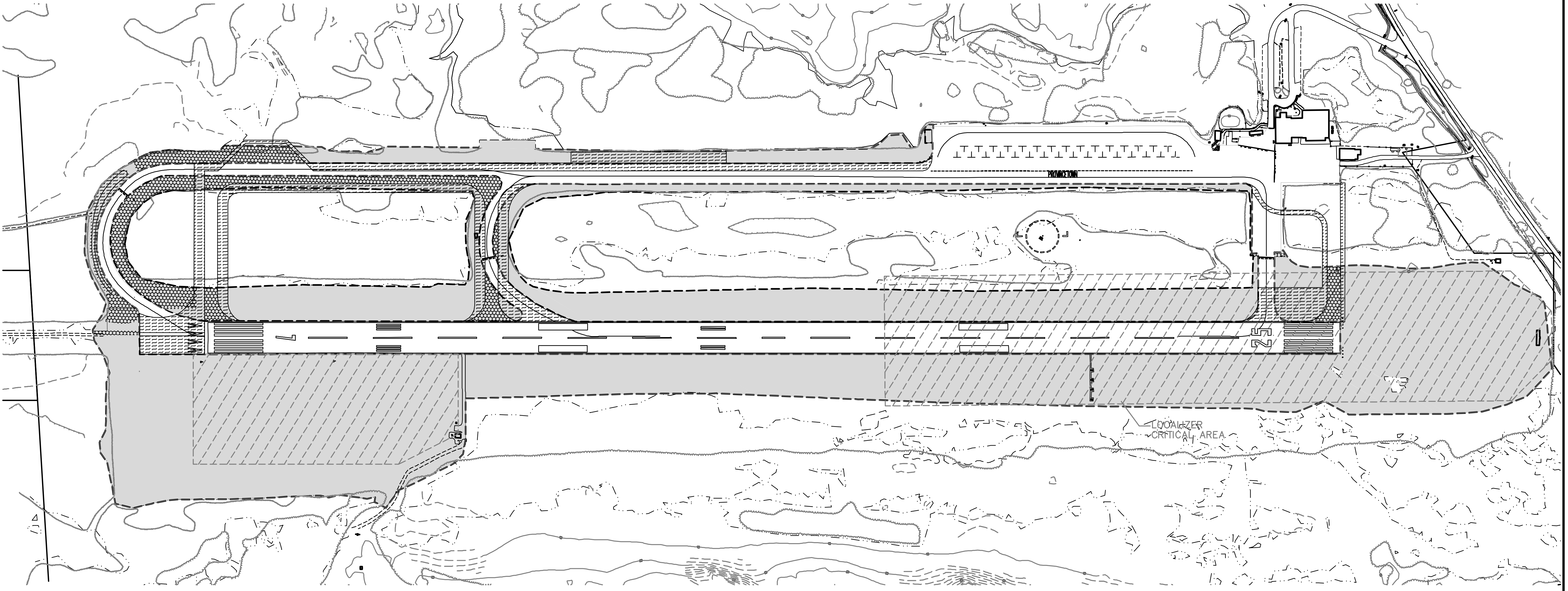


JACOBS

- ● EXISTING CULTURAL GRASSLAND
- ▨ GRASSLAND RESTORATION AREA
- ● GRASSLAND IMPACT AREA
- — · — EXISTING WETLAND LIMITS
- EXISTING GRASSLAND LIMITS
- EXISTING TREELINE
- EXISTING BRUSHLINE

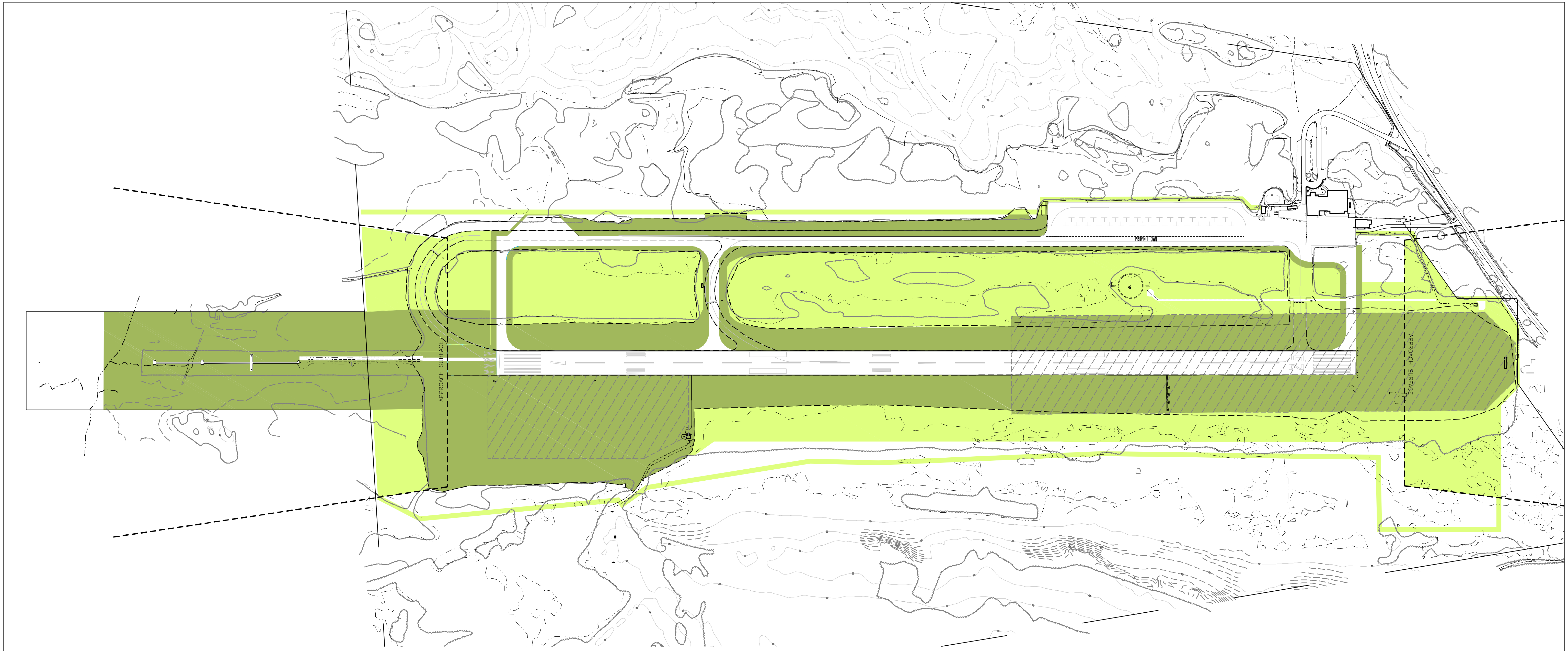
NOTE: RESTORATION AREAS CAN BE SEEN AT A LARGER SCALE ON FIGURES 7.1 THRU 7.4

Approx. Scale: 1"=300'
0 150' 300'

Provincetown Municipal Airport
Capital Improvements Plan

GRASSLAND IMPACT AND RESTORATION PLAN

Figure 7.4



VEGETATION MANAGEMENT PLAN

VEGETATION MANAGEMENT SCHEDULES

🟩 SCHEDULE 1	"UNRESTRICTED" MOWING SCHEDULE FOR GRASS AND PHRAGMITES
🟩 SCHEDULE 2	BRUSH HOG AREA EVERY 1–3 YEARS AFTER SEPTEMBER 15.

Prepared By:

JACOBS

Legend:

- EXISTING GRASSLAND LIMITS
- EXISTING WETLAND LIMITS
- SAFETY SECURITY FENCE
- EXISTING TREELINE
- EXISTING BRUSHLINE

Approx. Scale: 1"=400'

0 200 400

Provincetown Municipal Airport
Capital Improvements Plan

VEGETATION MANAGEMENT PLAN

Figure 7.5

SECTION 8.0 STATUTORY AND REGULATORY STANDARDS AND COMPLIANCE

8.1 National Park Service Special Use Permit

The Airport pre-dates the CCNS, which was created by Public Law 87-126 in 1961. As part of the land acquisition for the CCNS, the Commonwealth of Massachusetts authorized the Deed of Conveyance for the Province Lands in 1962. The deed restriction in the conveyance title recognizes the pre-existing lease between the Commonwealth of Massachusetts and the Town of Provincetown for the Airport facilities and access roads. After that lease expired a Special Use Permit was used to authorize operations of the Airport within the National Park Service lands. In the past, twenty-year Special Use Permits have been issued and reissued between the NPS and the Provincetown Airport Commission to establish policies, procedures and other terms under which Airport operations and improvements are carried out. The NPS has directed this form of agreement change to a Memorandum of Agreement for the purposes of coordinating airport operations. The Provincetown Airport Commission is currently working cooperatively toward finalizing this Memorandum of Agreement. The use of NPS land requires that NEPA be met when analyzing and reviewing potential changes to the Airport.

8.2 NEPA / MEPA Process

A combined Environmental Impact Report (EIR) and Environmental Assessment (EA) document has been prepared to meet the requirements of the Massachusetts Environmental Policy Act (MEPA) and the National Environmental Policy Act (NEPA). The Draft document was distributed on May 31, 2007.

The FAA National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions (Order 5050.4B) and FAA Environmental Impacts: Policies and Procedures (Order 1050.1E) provide the instructions for FAA compliance with NEPA. Additionally, the NPS DO-12 Handbook and Director’s Order have been reviewed so that the FEIR/EA would satisfy both FAA and NPS NEPA requirements. The NPS comments on the DEA/EIR and subsequent coordination meetings have been considered in the preparation of the final document.

The MEPA Scope and comments on the NPC/Draft EIR/EA have guided the evaluation on the state level pursuant to the Massachusetts Environmental Policy Act (MEPA).

This FEIR/EA is also part of the DRI submission pursuant to the Cape Cod Commission regulations, as discussed in Section 8.13.

8.3 Coastal Zone Management Program Federal Consistency Review

The Coastal Zone Management Act of 1972 established a program that gives coastal states funding to implement plans to manage coastal resources. Although the Massachusetts Coastal Zone Management Office (MCZM) is not a permitting agency it has the authority to review federal actions within the coastal zone for consistency with CZM policies. The Coastal Zone is defined to include all of Barnstable County but excludes federal lands (301 CMR 21.05).

A separate CZM Consistency Review letter was submitted for the Terminal Apron Reconstruction Project in February of 2008. The CZM office concurred that the project was consistent with CZM policies as shown on the letter dated April 2, 2008, included in Section 10.1

A CZM Consistency Review letter has been submitted for the remaining CIP projects to MA CZM along with the FEIR/EA. A copy of the submission is included in Section 9.7.

8.4 Americans with Disabilities Act

The Americans with Disabilities Act of 1990 (ADA) guarantees equal opportunity for individuals with disabilities in public accommodations, employment, transportation, state and local government services and telecommunications. The Rehabilitation Act of 1973, the Air Carrier Access Act of 1986, and the Architectural Barriers Act of 1968 also relate to individuals covered by the ADA. The US Department of Transportation has issued an Accessibility Policy Statement pledging a fully accessible multimodal transportation system. FAA Advisory Circular 150/5360-14 implements the objectives set forth in the ADA as well as the Architectural Barriers Act.

The existing parking lot and terminal building are in compliance with access requirements for individuals with disabilities. The proposed parking area and terminal building project elements of the CIP will be in full compliance with the ADA and other related statutes.

8.5 Clean Air Act

The Clean Air Act regulates air emissions from area, stationary, and mobile sources. The Act has been amended several times, most recently in 1990. This law authorizes the U.S. Environmental Protection Agency to establish National Ambient Air Quality Standards (NAAQS).

The amendments establish three categories of areas in which air quality is better than ambient air quality standards. According to information from the NPS, the CCNS is designated a Class II area.

Non-attainment areas are areas which do not meet national ambient air quality standards. For projects within non-attainment areas or maintenance areas, Federal agencies must complete a determination for conformity with the State Implementation Plan (SIP).

The process for assessing the air quality impact of FAA proposed actions is discussed in Air Quality Procedures for Civilian Airports and Air Force Bases, April 1997, and FAA Order 1050.1. The proposed CIP projects are not located within a non-attainment area and will not exceed 180,000 GA annual operations or more than 1.3 million passengers. Therefore, a NAAQS Assessment is not required.

8.6 DOT Act Section 4(f)

Section 4(f) of the Department of Transportation Act of 1966 (recodified as 49 USC Section 303(c)) states that land from a publicly owned park, recreation area, wildlife or waterfowl refuge, or land of a historic site can be used for a transportation project only if:

- there is no prudent and feasible alternative that would avoid using the resource, and
- the project includes all possible planning to minimize impacts.

A use may be direct (physical) or indirect (constructive). A direct use occurs when there is an actual physical taking of a Section 4(f) property. A constructive use occurs when adverse indirect impacts would substantially impair the use of the resource. Typically, the most common constructive use resulting from an airport project relates to visual and noise impacts.

After coordination with the National Park Service (October 31, 2007 comment letter on NPC/Draft EA/EIR), FAA has determined that the projects will be evaluated for Section 4(f). A Section 4(f) Evaluation is included in Section 9 of the FEIR/EA.

8.7 Executive Order 11988 Floodplain Management

Executive Order 11988 requires federal actions to avoid or minimize impacts to the 100 year floodplain. While at least a portion of each CIP project will occur at elevations below the 100-year floodplain, 10 to 11 feet above mean sea level, none of the CIP projects are anticipated to have any adverse affect on the flood storage capacity relative to the ability of these low-lying areas to temporarily retain and release coastal waters during and following a flooding event at the Airport or within the surrounding CCNS lands.

Project alternatives have been considered that will avoid adverse effects and incompatible development in the floodplains. The proposed projects will not displace flood waters nor will they minimize the area available for flood storage because of the proposed wetland mitigation. A Statement of Findings is provided in Section 9.

8.8 Executive Order 11990 Protection of Wetlands

Executive Order 11990 requires federal actions to avoid or minimize impacts to wetlands. Wetland impacts associated with the proposed projects have been avoided and minimized to the extent possible. Mitigation is proposed for unavoidable impacts.

Environmentally preferred alternatives have been selected for CIP projects so as to minimize the destruction, loss, and/or degradation of wetlands and other resource areas. The selected alternatives include all practicable measures to minimize harm to wetlands and also incorporate substantial mitigation in order to restore and enhance the natural and beneficial values of the wetlands encountered within the Airport. See Section 7.0 for details on mitigation plans. Furthermore, all projects will be carried out in accordance with the Massachusetts Wetlands Protection Act regulations minimum performance standards, Provincetown Wetlands Bylaw, the Federal Clean Water Act (33 U.S.C. 1251, et seq.), and the minimum performance standards under the CCC RPP to the fullest extent practicable.

A Statement of Findings is provided in Section 9

8.9 Executive Order 12898 Environmental Justice

Executive Order 12898 requires federal actions to address Environmental Justice in Minority Populations and Low-Income Populations. The MassGIS Environmental Justice (EJ) data layer indicates two EJ areas in downtown Provincetown. The proposed CIP projects will not impact minority or low-income populations.

8.10 Federal Endangered Species Act of 1973, as amended

Consultation has been carried out with the U.S. Fish and Wildlife Service (FWS) regarding federal listed endangered species. The New England Field Office indicated that beaches north and west of the project are known to support Federally-Threatened piping plovers. At the time, the FWS was not able to make a determination as to whether the projects would adversely affect piping plovers. The FWS requested copies of all environmental documents and the NPC/Draft EIR/EA was sent to the FWS NERO. No comment on the Draft was received. The FEIR/EA was sent to the FWS. The NPS has indicated that they treat all State-listed species (as listed by NHESP) the same as any Federally-Threatened or Endangered species, and, in addition to minimizing impacts, will seek to further their protection along with promoting their recovery and security on a Federal level. Coordination will continue with NPS and NHESP regarding protection of listed species.

8.11 National Historic Preservation Act of 1966 and Archeological Resources Protection Act of 1979

Section 106 of the National Historic Preservation Act (NHPA) requires Federal agencies to consider the effects of their undertaking on properties on or eligible for inclusion in the National Register of Historic Places.

The Archaeological Resources Protection Act (ARPA) prohibits unauthorized excavation of archaeological resources on Federal or Indian lands.

FAA compliance responsibilities pursuant to these Acts include consultation, determination of action as an undertaking, determination of area of potential effect, evaluation and findings.

Initial written consultation was carried out with the Massachusetts Historical Commission (MHC), State Historic Preservation Officer, and the Tribal Historic Preservation Officer of the Wampanoag Tribe of Gay head (Aquinnah) in January of 2005 during the preparation of the 2005 Master Plan. Additional written consultation was completed with MHC in March and April of 2007 during preparation of the NPC/Draft EIR/EA. NPS commented on Section 106 issues in their comment letter on the NPC/Draft EIR/EA. The CCNS concurs with MHC that no historic structures are present in the immediate area of potential effect. The CCNS park archaeologist has determined that no archaeological testing is necessary for the fence or taxiway lights project. Agency correspondence is included in Section 10. NPS comments letters are provided in Section 13.

Additional coordination was carried out with MHC (by phone to confirm their April 2, 2007 determination), the Wampanoag Tribe of Gay Head (Aquinnah) (written) and the Mashpee Wampanoag Tribe (written) prior to completion of the FEIR/EA. This FEIR/EA includes all comment letters received. No comment letters were received from either of the Tribal Historic Preservation Officers. As indicated in Section 11, MHC and the two tribes will receive copies of the FEIR/EA.

8.12 US ACOE Section 404 Permit

The CIP project is subject to review by the U.S. Army Corps of Engineers (ACOE) pursuant to Section 404 of the Clean Water Act. After a site visit to review wetland boundaries, the ACOE determined it has jurisdiction based on the presence of “waters of the United States” and/or “navigable waters of the United States”. The Jurisdictional Determination is included in Section 10.1.

An application for an individual Section 404 permit will be submitted. Coordination has been carried out with the Corps regarding the location, type, and amount of mitigation and will be further refined throughout the permitting process. The project, and associated mitigation and monitoring requirements, will comply with the Corps mitigation policy. A discussion of the permitting requirements is provided in Section 6.1.

8.13 Cape Cod Commission DRI Process

The CIP, as a project requiring an EIR, is categorically deemed to be a DRI under the Cape Cod Commission Act, Section 12(i), and is subject to review by the CCC. Such projects are reviewed for consistency with performance standards contained in the CCC’s Regional Policy Plan. Prior to the submission of the NPC/Draft EIR/EA, the Airport Commission initiated a joint MEPA/CCC review.

The CCC held a hearing on June 27, 2007 to gather information for the joint CCC/MEPA review. A DRI application was submitted to the CCC at the time of the submission of the FEIR/EA. After the FEIR/EA is issued a Certificate by MEPA, CCC will hold a Public Hearing on the DRI application.

8.14 DEP Section 401 Water Quality Certificate

Pursuant to the Federal Clean Water Act, any project that would impact wetlands requires a Water Quality Certificate to ensure that the project is in compliance with state water quality standards and regulations. The Water Quality Certificate is issued by DEP. The Airport is located within the CCNS, and as such all waters (and wetlands) in and adjacent to the CCNS are designated Outstanding Resource Waters (ORWs) pursuant to 314 CMR 4.06, Cape Cod Coastal Drainage Area.

An application for an individual Section 401 permit or a Variance will be submitted. A detailed discussion of the permitting requirements is provided in Section 6.1.

8.15 MA Wetlands Protection Act and Provincetown Bylaw

An Abbreviated Notice of Resource Area Delineation (ANRAD) was filed with the Provincetown Conservation Commission. The ANRAD was amended after additional delineation. The delineated wetland boundaries were reviewed in the field and the boundaries were approved by the Commission, as shown on figures in this document. The ANRAD was granted a 3 year extension in January 2010 and is still valid.

Notice of Intent filings will be submitted for individual projects, or groups of projects, depending on the project design and construction schedules. An Order of Conditions was issued for the Terminal Apron Reconstruction Project. Section 6 discusses the permitting phasing for the projects.

Additional discussion of the permitting process is provided in Section 6.1.

8.16 MA Endangered Species Act

The CIP projects are located within areas mapped as both Priority Habitat of Rare Species and Estimated Habitat of Rare Wildlife and Certified Vernal Pools as designated by the NHESP. The CIP projects will require review under the Massachusetts Endangered Species Act. Consultation has been initiated with staff at NHESP and will continue. A request for MESA Project Review will be submitted when the FEIR/EA is submitted. If NHESP issues a determination of No Take, with conditions, the process will be complete.

Additional discussion of the permitting process is provided in Section 6.1.

8.17 Executive Order 385 and CCC Regional Policy Plan

State Executive Order 385 Planning for Growth, encourages economic development that is consistent with the goals of protecting environmental quality and preserving environmental resources. Executive Order 385 requires state agency actions to consider local and regional growth management plans. The CIP projects will be reviewed as a DRI for compliance with the CCC RPP.

8.18 National Pollution Discharge Elimination System (NPDES)

The NPDES Storm Water Program requires operators of large and small construction sites to obtain authorization to discharge stormwater under an NPDES construction storm water permit. This program is administered jointly by the Environmental Protection Agency (EPA) and the Massachusetts DEP. A Notice of Intent will be filed with the U.S. Environmental Protection Agency for an NPDES Construction Management General Permit 72 hours prior to the start of construction. The contractor will be required to prepare a Stormwater Pollution Prevention Plan and adhere to the plan to control stormwater and prevent the movement of sediment from the construction site.

Operation of the Airport is subject to the NPDES Stormwater Multi-Sector General Permit. According to the NPDES Program, airports are listed under Category vii – “Transportation facilities with Standard Industrial Codes 40, 41, 42, 43, 44, 45, and 5171, which have Cleaning Operations or Airport Deicing Operations.” The Airport is Sector S, Air Transportation Facilities, and its Standard Industrial Code is 4580, “airports, flying fields, and surfaces.” Those areas of the Airport that discharge to “waters of the United States” are subject to NPDES jurisdiction. For Provincetown Municipal Airport, this means those areas that are tributary to the wetlands onsite.

In compliance with the NPDES Program, the Airport developed a SWPPP in October 2000, revised in July 2002. The SWPPP describes the drainage system at the Airport, identifies potential pollution sources that might enter the drainage network and impact downstream receiving waters, and lists BMPs for decreasing impacts.

SECTION 9.0 FINDINGS

This section contains the following Findings.

9.1	MA Department of Transportation Aeronautics Division Draft Section 61 Findings
9.2	MA Department of Environmental Protection Draft Section 61 Findings
9.3	MA Natural Heritage and Endangered Species Program Draft Section 61 Findings
9.4	Section 4(f) Evaluation
9.5	Statement of Findings, E.O. 11990 Protection of Wetlands
9.6	Statement of Findings, E.O. 11988 Floodplain Management
9.7	CZM Federal Consistency Certification

9.1 MassDOT Aeronautics Draft Section 61 Findings

Massachusetts Department of Transportation
Aeronautics Division

Section 61 Finding (MGL Chapter 30, Section 61)

Project:	Capital Improvements Plan (CIP)
Project Location:	Provincetown Municipal Airport
Project Proponent:	Provincetown Airport Commission
EEA Number:	13789

This Section 61 Findings for the proposed CIP projects has been prepared pursuant to Massachusetts General Laws, Chapter 30, Section 61 and 301 CMR 11.07. As a state agency, the Massachusetts Department of Transportation Aeronautics Division (MassDOT) is required to review, evaluate and determine the environmental impacts of its actions and issue a Finding. The MassDOT action is to fund a percentage of the construction and mitigation costs.

The Findings are based on the information presented in the FEIR/EA (EEA #13789) which outlines the measures that will be implemented by the Provincetown Municipal Airport Commission to minimize the unavoidable environmental impacts associated with the projects.

CIP Project Summary

The Provincetown Municipal Airport Commission proposes a Capital Improvements Plan (CIP) of safety and facility improvements at Provincetown Municipal Airport (Airport). The purpose of the CIP project elements is to enhance Airport safety and security and enhance the efficiency of the Airport to more fully meet the current and anticipated demand. The CIP projects are needed because certain airfield facilities do not meet current FAA safety and security standards and the Airport's current parking and terminal facilities can not efficiently meet current and projected demand. Implementation of the CIP will fulfill the mission of the Airport to operate a safe, secure, and reliable primary service airport receiving scheduled airline passenger service. The projects are listed below.

Proposed CIP Projects

- Westerly Taxiway System Improvements
- Relocate East End TW
- Reconstruct Easterly End of Partial Parallel TW
- Reconstruct Terminal Apron
- Install TW Edge Lights and Construct Electric Vault
- Rehabilitate or Replace Sightseeing Shack
- Improve Access Road to Approach Lights (MALSF)
- Construct Service Access Roads to AWOS and LES
- Install Perimeter Fence
- Expand Turf Apron

- Expand Auto Parking
- Expand Terminal Building

MEPA History

A MEPA Certificate on the Environmental Notification Norm (ENF) was issued for the project on May 26, 2006. A MEPA Certificate on the NPC/Draft Environmental Impact Report/Environmental Assessment (DEIR/EA) was issued on July 18, 2007. A Certificate on the FEIR/EA was issued on February 17, 2012 stating that the FEIR/EA adequately and properly complied with MEPA and its implementing regulations.

Summary of Impacts

The CIP projects will have unavoidable impacts to wetland, coastal dune, cultural grasslands and species habitat. Impacts have been minimized through design alternatives, construction timing and methods, and long-term operational mitigation measures. A summary of impacts for each element of the CIP is presented in Table 1.

Mitigation Measures

Measures have been incorporated in the design phase, construction phase mitigation, and operational phase.

Design Phase Mitigation

- Wetland Restoration
- Coastal Dune Restoration
- Cultural Grassland Restoration
- Stormwater Management
- Landscaping and Building Design

Construction Phase Mitigation

- Construction Management Plan
- Turtle Protection Plan

Operational Mitigation

- Vegetation Management Plan
- Invasive Species Management Plan
- Operational Mitigation Plan
- Stormwater Management Plan
- TDM Measures

Mitigation Implementation Schedule

Mitigation measures (summarized in Table 2) and outlined in detail in the FEIR document and permits will be incorporated into all contract documents to insure implementation. The Airport Commission will be the responsible party for implementation of the mitigation measures.

Table 1 Summary Of Impacts And Proposed Mitigation Measures For Preferred Alternatives For CIP Projects

PROPOSED ALTERATION					PROPOSED MITIGATION		
Project	**Type of Resource Area**	**Area of Proposed Alteration (SF)**	**Species Habitat**	**Description of Proposed Alteration**	**Description of Proposed Mitigation**	**Area of Proposed Mitigation (SF)**	
(1) Westerly TW System Improvements	IVW	28,655 (Wetland I)	EBT, ES(B)	Fill	On-site wetland restoration	Areas A & C	
	Coastal Dune	6,460	EBT, ES(N)		On-site dune creation	Areas A & C	
	Cultural Grassland	No Net Loss	EBT, VS		On-site cultural grassland creation/restoration	No Net Loss	
(2) Relocate East End TW	IVW	28,300 (Wetland B)	EBT, ES(B)	Fill	On-site wetland restoration	Areas A & C	
	Coastal Dune	5,000	EBT, ES(N)		On-site dune creation	Areas A & C	
	Cultural Grassland	No Net Loss	EBT, VS		On-site cultural grassland creation/restoration	No Net Loss	
(3) Reconstruct Terminal Apron	--	--		--	--	--	
(4) Reconstruct Easterly End of Partial Parallel TW	--	--		--	--	--	
(5) Install TW Lighting and Construct Electric Vault	Cultural Grassland	No Net Loss	EBT, VS	--	On-site cultural grassland restoration	--	
(6) Repair Sightseeing Shack	--	--		--	--	--	
(7) Improve Access Road to Approach Lights (MALSF)	BVW	960 (Wetland C/J/FK)		Fill	On-site wetland restoration	Area B	
(8) Construct Service Access Roads LES Road	Coastal Dune	7,610	EBT, ES(N)	Fill	On-site dune creation	Areas A & C	
(8) Construct Service Access Roads AWOS Road	IVW	290 (Wetland H)	EBT	Fill	On-site wetland restoration	Areas A & C	
	Coastal Dune	10,560	EBT, ES(N)	Fill	On-site dune creation	Areas A & C	
(9) Install Perimeter Fence (REVISED alternative) "Concept 6"	BVW	1,152 (direct)[1] 8,972 (indirect/secondary) (Wetland C/J/FK)	(EBT)	Direct Impact consists of Fill for Fence Post Installation and maintenance. Indirect/Secondary Impact consists of Vegetation Maintenance[1].	On-site wetland restoration	Area B	
	IVW	25,648 (direct) 3,952 (indirect/secondary)	EBT, ES(B)		On-site wetland restoration	Areas A & C	
					On-site wetland enhancement	Wetland H & I	
	Coastal Dune	8,060 (direct) 24,028 (indirect/secondary)	EBT, ES(N)	Fill	On-site dune creation	Areas A & C	
(10a) Expand Auto Parking (Phase 1)	Coastal Dune	7,315	EBT, ES(N)	Fill	On-site dune creation	Areas A & C	
(10b) Auto Parking (Phase 2) **"Concept 4"**	Coastal Dune	5,707	EBT, ES(N)	Fill			
(11) Expand Terminal Building (Vertical Expansion)	--	--		--	--	--	
(12) Expand Turf Apron	Cultural Grassland	No Net Loss	EBT, VS	--	On-site cultural grassland restoration		
TOTAL DIRECT ALTERATION: (SF)	IVW	82,893		**TOTAL ON-SITE MITIGATION: (SF)**	On-site IVW restoration	**Net Change in Area (SF)**	
						78,000	**-4,893 (~1:1)**
					On-site wetland enhancement	616,350	**(~7.4:1)**
	BVW	2,112			On-site BVW restoration	5,000	**+2,888 (~2.4:1)**
	Coastal Dune	50,712 (includes Parking Phases 1 & 2)			On-site Dune creation	27,500	**-23,212 (~0.5:1)**
							-7,212 (~0.9:1)
	Cultural Grassland	No Net Loss			On-site Cultural Grassland restoration No Net Loss	On-site cultural grassland creation/restoration	**No Net Loss**

[1] Direct fence impacts have been calculated based upon direct fill for the fence posts and conversion of forested and dense shrub areas to low growing communities as a result of vegetation management. Indirect/secondary impacts are based upon areas where either 1) vegetation is already open and/or low-growing and will not require vegetation management, or else 2) consists of a monoculture of *Phragmites*.

EBT = Eastern Box Turtle Habitat
ES(B) = Eastern Spadefoot Toad Breeding Habitat
ES(N) = Eastern Spadefoot Toad Non-Breeding Habitat
VS = Vesper Sparrow Habitat

Table 2 Schedule of Implementation of Mitigation

Issues	Mitigation	Implementation Schedule
Auto Parking	TDM Measures	Currently, During Project Construction, and Operation
Wetlands	Design Modifications; Implement Wetland Restoration Plan	During Design and Construction
Coastal Dunes	Design Modifications; Implement Wetland Restoration Plan	During Design and Construction
Cultural Grasslands	Design Modifications; Implement Coastal Dune Restoration Plan	During Design and Construction
Invasive Species Management	Implement Invasive Species Management Plan	During Design and Construction
Stormwater Management	Implement Stormwater Management Design for Auto Parking	During Design and Construction
Rare Species Habitat	Implement Resource Mitigation Plans; Implement Construction Management Plan and Turtle Protection Plan Implement Operational Mitigation, VMP, and Invasive Species Plans	During Design, Construction, and Operational Phases
Visual	Finalize and Implement Landscape Plan	During Design and Construction
Hazardous Materials	Dispose of all construction materials in accordance with all regulations.	As Needed
Construction Impacts	Implement Construction Management Plan	Construction Phase

Source: FEIR/EA/DRI,EEA No. 13789, 2009

Findings

The Massachusetts Department of Transportation Aeronautics Division finds that with implementation by the Airport Commission of the mitigation measures described above, all practicable means and measures will have been taken to avoid or minimize adverse impacts to the environment relating to the proposed Provincetown Municipal Airport CIP projects. These proposed measures will be included as conditions of the funding provided by MassDOT.

Print Name: ______________________________ Date____________________

Title: ___________________________________ Mass DOT Aeronautics Division

9.2 MA DEP Draft Section 61 Findings

Massachusetts Department of Environmental Protection

Section 61 Findings (MGL Chapter 30, Section 61)

Project:	Capital Improvements Plan (CIP)
Project Location:	Provincetown Municipal Airport
Project Proponent:	Provincetown Airport Commission
EEA Number:	13789

This Section 61 Findings for the proposed CIP projects has been prepared pursuant to Massachusetts General Laws, Chapter 30, Section 61 and 301 CMR 11.07. As a state agency, the Massachusetts Department of Environmental Protection (DEP) is required to review, evaluate and determine the environmental impacts of its actions and issue a Finding. The DEP action is to review the project for impacts to wetlands and determine if the project is in compliance with the Massachusetts Wetland Protection Act and Section 401 of the Clean Water Act.

The Findings are based on the information presented in the FEIR/EA (EEA #13789) which outlines the measures that will be implemented by the Provincetown Municipal Airport Commission to minimize the unavoidable environmental impacts associated with the projects.

CIP Project Summary

The Provincetown Municipal Airport Commission proposes a Capital Improvements Plan (CIP) of safety and facility improvements at Provincetown Municipal Airport (Airport). The purpose of the CIP project elements is to enhance Airport safety and security and enhance the efficiency of the Airport to more fully meet the current and anticipated demand. The CIP projects are needed because certain airfield facilities do not meet current FAA safety and security standards and the Airport's current parking and terminal facilities can not efficiently meet current and projected demand. Implementation of the CIP will fulfill the mission of the Airport to operate a safe, secure, and reliable primary service airport receiving scheduled airline passenger service. The projects are listed below.

Proposed CIP Projects

- Westerly Taxiway System Improvements
- Relocate East End TW
- Reconstruct Easterly End of Partial Parallel TW
- Reconstruct Terminal Apron
- Install TW Edge Lights and Construct Electric Vault
- Rehabilitate or Replace Sightseeing Shack
- Improve Access Road to Approach Lights (MALSF)
- Construct Service Access Roads to AWOS and LES
- Install Perimeter Fence
- Expand Turf Apron

- Expand Auto Parking
- Expand Terminal Building

MEPA History

A MEPA Certificate on the Environmental Notification Norm (ENF) was issued for the project on May 26, 2006. A MEPA Certificate on the NPC/Draft Environmental Impact Report/Environmental Assessment (DEIR/EA) was issued on July 18, 2007. A Certificate on the FEIR/EA was issued on February 17, 2012 stating that the FEIR/EA adequately and properly complied with MEPA and its implementing regulations.

Summary of Impacts

The CIP projects will have unavoidable impacts to wetland, coastal dune, cultural grasslands and species habitat. Impacts have been minimized through design alternatives, construction timing and methods, and long-term operational mitigation measures. A summary of impacts for each element of the CIP is presented in Table 1.

Mitigation Measures

Measures have been incorporated (Table 2) in the design phase, construction phase mitigation, and operational phase to avoid, minimize, and mitigate impacts to natural resources and specifically to rare species and rare species habitat. All proposed measures are listed in Table 2. However, this Finding relates only those measures relevant to wetlands and water quality.

Design Phase Mitigation

- Wetland Restoration
- Coastal Dune Restoration
- Cultural Grassland Restoration
- Stormwater Management
- Landscaping and Building Design

Construction Phase Mitigation

- Turtle Protection Plan
- Construction Management Plan

Operational Mitigation

- Vegetation Management Plan
- Invasive Species Management Plan
- Safety/Security Fence Wildlife Mitigation Plan
- Stormwater Management Plan
- TDM Measures

Table 1 Summary Of Impacts And Proposed Mitigation Measures For Preferred Alternatives For CIP Projects

PROPOSED ALTERATION					PROPOSED MITIGATION		
Project	Type of Resource Area	Area of Proposed Alteration (SF)	Species Habitat	Description of Proposed Alteration	Description of Proposed Mitigation	Area of Proposed Mitigation (SF)	
(1) Westerly TW System Improvements	IVW	28,655 (Wetland I)	EBT, ES(B)	Fill	On-site wetland restoration	Areas A & C	
	Coastal Dune	6,460	EBT, ES(N)		On-site dune creation	Areas A & C	
	Cultural Grassland	No Net Loss	EBT, VS		On-site cultural grassland creation/restoration	No Net Loss	
(2) Relocate East End TW	IVW	28,300 (Wetland B)	EBT, ES(B)	Fill	On-site wetland restoration	Areas A & C	
	Coastal Dune	5,000	EBT, ES(N)		On-site dune creation	Areas A & C	
	Cultural Grassland	No Net Loss	EBT, VS		On-site cultural grassland creation/restoration	No Net Loss	
(3) Reconstruct Terminal Apron	--	--		--	--	--	
(4) Reconstruct Easterly End of Partial Parallel TW	--	--		--	--	--	
(5) Install TW Lighting and Construct Electric Vault	Cultural Grassland	No Net Loss	EBT, VS	--	On-site cultural grassland restoration	--	
(6) Repair Sightseeing Shack	--	--		--	--	--	
(7) Improve Access Road to Approach Lights (MALSF)	BVW	960 (Wetland C/J/FK)		Fill	On-site wetland restoration	Area B	
(8) Construct Service Access Roads LES Road	Coastal Dune	7,610	EBT, ES(N)	Fill	On-site dune creation	Areas A & C	
(8) Construct Service Access Roads AWOS Road	IVW	290 (Wetland H)	EBT	Fill	On-site wetland restoration	Areas A & C	
	Coastal Dune	10,560	EBT, ES(N)	Fill	On-site dune creation	Areas A & C	
(9) Install Perimeter Fence (REVISED alternative) **"Concept 6"**	BVW	1,152 (direct)[1] 8,972 (indirect/secondary) (Wetland C/J/FK)	(EBT)	Direct Impact consists of Fill for Fence Post Installation and maintenance. Indirect/Secondary Impact consists of Vegetation Maintenance[1].	On-site wetland restoration	Area B	
	IVW	25,648 (direct) 3,952 (indirect/secondary)	EBT, ES(B)		On-site wetland restoration	Areas A & C	
					On-site wetland enhancement	Wetland H & I	
	Coastal Dune	8,060 (direct) 24,028 (indirect/secondary)	EBT, ES(N)	Fill	On-site dune creation	Areas A & C	
(10a) Expand Auto Parking (Phase 1)	Coastal Dune	7,315	EBT, ES(N)	Fill	On-site dune creation	Areas A & C	
(10b) Auto Parking (Phase 2) **"Concept 4"**	Coastal Dune	5,707	EBT, ES(N)	Fill			
(11) Expand Terminal Building (Vertical Expansion)	--	--		--	--	--	
(12) Expand Turf Apron	Cultural Grassland	No Net Loss	EBT, VS	--	On-site cultural grassland restoration		
TOTAL DIRECT ALTERATION: (SF)				**TOTAL ON-SITE MITIGATION: (SF)**		**Net Change in Area (SF)**	
	IVW	82,893			On-site IVW restoration	78,000	**-4,893 (~1:1)**
					On-site wetland enhancement	616,350	**(~7.4:1)**
	BVW	2,112			On-site BVW restoration	5,000	**+2,888 (~2.4:1)**
	Coastal Dune	50,712 (includes Parking Phases 1 & 2)			On-site Dune creation	27,500	**-23,212 (~0.5:1)** **-7,212 (~0.9:1)**
	Cultural Grassland	No Net Loss			On-site Cultural Grassland restoration No Net Loss	On-site cultural grassland creation/restoration	No Net Loss

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[1] Direct fence impacts have been calculated based upon direct fill for the fence posts and conversion of forested and dense shrub areas to low growing communities as a result of vegetation management. Indirect/secondary impacts are based upon areas where either 1) vegetation is already open and/or low-growing and will not require vegetation management, or else 2) consists of a monoculture of *Phragmites*.

EBT = Eastern Box Turtle Habitat
ES(B) = Eastern Spadefoot Toad Breeding Habitat
ES(N) = Eastern Spadefoot Toad Non-Breeding Habitat
VS = Vesper Sparrow Habitat

Mitigation Implementation Schedule

Mitigation measures (summarized in Table2) and outlined in detail in the FEIR document and permits will be incorporated into all contract documents to insure implementation. The Airport Commission will be the responsible party for implementation of the mitigation measures.

Table 2 Schedule of Implementation of Mitigation

Issues	**Mitigation**	**Implementation Schedule**
Auto Parking	TDM Measures	Currently, During Project Construction, and Operation
Wetlands	Design Modifications; Implement Wetland Restoration Plan	During Design and Construction
Coastal Dunes	Design Modifications; Implement Wetland Restoration Plan	During Design and Construction
Cultural Grasslands	Design Modifications; Implement Coastal Dune Restoration Plan	During Design and Construction
Invasive Species Management	Implement Invasive Species Management Plan	During Design and Construction
Stormwater Management	Implement Stormwater Management Design for Auto Parking	During Design and Construction
Rare Species Habitat	Implement Resource Mitigation Plans; Implement Construction Management Plan and Turtle Protection Plan Implement Operational Mitigation, VMP, and Invasive Species Plans	During Design, Construction, and Operational Phases
Visual	Finalize and Implement Landscape Plan	During Design and Construction
Hazardous Materials	Dispose of all construction materials in accordance with all regulations.	As Needed
Construction Impacts	Implement Construction Management Plan	Construction Phase

Source: FEIR/EA/DRI,EEA No. 13789, 2009

Findings

The Massachusetts Department of Environmental Protection finds that with implementation by the Airport Commission of the mitigation measures described above, all practicable means and measures will have been taken to avoid or minimize adverse impacts to the environment relating to the proposed Provincetown Municipal Airport CIP projects. These proposed measures will be included as conditions in the permits/variances issued by DEP. This Finding is limited to the subject matter jurisdiction of the permits sought from the DEP.

Print Name: ______________________________ Date:______________________

Title: ___________________________________ MassDEP

9.3 MA NHESP Draft Section 61 Findings

Massachusetts Natural Heritage and Endangered Species Program
Section 61 Finding (MGL Chapter 30, Section 61)

Project:	Capital Improvements Plan (CIP)
Project Location:	Provincetown Municipal Airport
Project Proponent:	Provincetown Airport Commission
EEA Number:	13789

This Section 61 Findings for the proposed CIP projects has been prepared pursuant to Massachusetts General Laws, Chapter 30, Section 61 and 301 CMR 11.07. As a state agency, the Massachusetts Natural Heritage and Endangered Species Program (NHESP) is required to review, evaluate and determine the environmental impacts of its actions and issue a Finding. The NHESP action is to review the project for impacts to rare species and determine if the project is in compliance with the Massachusetts Endangered Species Act (MESA).

The Findings are based on the information presented in the FEIR/EA (EEA #13789) which outlines the measures that will be implemented by the Provincetown Municipal Airport Commission to minimize the unavoidable environmental impacts associated with the projects.

CIP Project Summary

The Provincetown Municipal Airport Commission proposes a Capital Improvements Plan (CIP) of safety and facility improvements at Provincetown Municipal Airport (Airport). The purpose of the CIP project elements is to enhance Airport safety and security and enhance the efficiency of the Airport to more fully meet the current and anticipated demand. The CIP projects are needed because certain airfield facilities do not meet current FAA safety and security standards and the Airport's current parking and terminal facilities can not efficiently meet current and projected demand. Implementation of the CIP will fulfill the mission of the Airport to operate a safe, secure, and reliable primary service airport receiving scheduled airline passenger service. The projects are listed below.

Proposed CIP Projects

- Westerly Taxiway System Improvements
- Relocate East End TW
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- Install Perimeter Fence
- Expand Turf Apron
- Expand Auto Parking
- Expand Terminal Building

MEPA History

A MEPA Certificate on the Environmental Notification Norm (ENF) was issued for the project on May 26, 2006. A MEPA Certificate on the NPC/Draft Environmental Impact Report/Environmental Assessment (DEIR/EA) was issued on July 18, 2007. A Certificate on the FEIR/EA was issued on February 17, 2012 stating that the FEIR adequately and properly complied with MEPA and its implementing regulations.

Summary of Impacts

The CIP projects will have unavoidable impacts to wetland, coastal dune, cultural grasslands and species habitat. Impacts have been minimized through design alternatives, construction timing and methods, and long-term operational mitigation measures. A summary of impacts for each element of the CIP is presented in Table 1.

Mitigation Measures

Measures have been incorporated in the design phase, construction phase mitigation, and operational phase to avoid, minimize, and mitigate impacts to natural resources and specifically to rare species and rare species habitat. All proposed measures are listed in Table 2. However, this Finding discusses only those measures relevant to rare species.

Design Phase Mitigation

- Wetland Restoration
- Coastal Dune Restoration
- Cultural Grassland Restoration
- Stormwater Management
- Landscaping and Building Design

Construction Phase Mitigation

- Turtle Protection Plan,
- Construction Management Plan

Operational Mitigation

- Vegetation Management Plan
- Invasive Species Management Plan
- Safety/Security Fence Wildlife Mitigation Plan
- Stormwater Management Plan
- TDM Measures

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	Cultural Grassland	No Net Loss	EBT, VS		On-site cultural grassland creation/restoration	No Net Loss	
(2) Relocate East End TW	IVW	28,300 (Wetland B)	EBT, ES(B)	Fill	On-site wetland restoration	Areas A & C	
	Coastal Dune	5,000	EBT, ES(N)		On-site dune creation	Areas A & C	
	Cultural Grassland	No Net Loss	EBT, VS		On-site cultural grassland creation/restoration	No Net Loss	
(3) Reconstruct Terminal Apron	--	--		--	--	--	
(4) Reconstruct Easterly End of Partial Parallel TW	--	--		--	--	--	
(5) Install TW Lighting and Construct Electric Vault	Cultural Grassland	No Net Loss	EBT, VS	--	On-site cultural grassland restoration	--	
(6) Repair Sightseeing Shack	--	--		--	--	--	
(7) Improve Access Road to Approach Lights (MALSF)	BVW	960 (Wetland C/J/FK)		Fill	On-site wetland restoration	Area B	
(8) Construct Service Access Roads LES Road	Coastal Dune	7,610	EBT, ES(N)	Fill	On-site dune creation	Areas A & C	
(8) Construct Service Access Roads AWOS Road	IVW	290 (Wetland H)	EBT	Fill	On-site wetland restoration	Areas A & C	
	Coastal Dune	10,560	EBT, ES(N)	Fill	On-site dune creation	Areas A & C	
(9) Install Perimeter Fence (REVISED alternative) "Concept 6"	BVW	1,152 (direct)[1] 8,972 (indirect/secondary) (Wetland C/J/FK)	(EBT)	Direct Impact consists of Fill for Fence Post Installation and maintenance. Indirect/Secondary Impact consists of Vegetation Maintenance[1]	On-site wetland restoration	Area B	
	IVW	25,648 (direct) 3,952 (indirect/secondary)	EBT, ES(B)		On-site wetland restoration	Areas A & C	
					On-site wetland enhancement	Wetland H & I	
	Coastal Dune	8,060 (direct) 24,028 (indirect/secondary)	EBT, ES(N)	Fill	On-site dune creation	Areas A & C	
(10a) Expand Auto Parking (Phase 1)	Coastal Dune	7,315	EBT, ES(N)	Fill	On-site dune creation	Areas A & C	
(10b) Auto Parking (Phase 2) "Concept 4"	Coastal Dune	5,707	EBT, ES(N)	Fill			
(11) Expand Terminal Building (Vertical Expansion)	--	--		--	--	--	
(12) Expand Turf Apron	Cultural Grassland	No Net Loss	EBT, VS	--	On-site cultural grassland restoration		
TOTAL DIRECT ALTERATION: (SF)	IVW	82,893		TOTAL ON-SITE MITIGATION: (SF)	On-site IVW restoration	Net Change in Area (SF)	
						78,000	-4,893 (~1:1)
					On-site wetland enhancement	616,350	(~7.4:1)
	BVW	2,112			On-site BVW restoration	5,000	+2,888 (~2.4:1)
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							-7,212 (~0.9:1)
	Cultural Grassland	No Net Loss			On-site Cultural Grassland restoration No Net Loss	On-site cultural grassland creation/restoration	No Net Loss

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[1] Direct fence impacts have been calculated based upon direct fill for the fence posts and conversion of forested and dense shrub areas to low growing communities as a result of vegetation management. Indirect/secondary impacts are based upon areas where either 1) vegetation is already open and/or low-growing and will not require vegetation management, or else 2) consists of a monoculture of *Phragmites*.

EBT = Eastern Box Turtle Habitat
ES(B) = Eastern Spadefoot Toad Breeding Habitat
ES(N) = Eastern Spadefoot Toad Non-Breeding Habitat
VS = Vesper Sparrow Habitat

Mitigation Implementation Schedule

Mitigation measures outlined in detail in the FEIR/EA document and permits will be incorporated into all contract documents to insure implementation. The Airport Commission will be the responsible party for implementation of the mitigation measures.

Table 2 Schedule of Implementation of Mitigation

Issues	**Mitigation**	**Implementation Schedule**
Auto Parking	TDM Measures	Currently, During Project Construction, and Operation
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Coastal Dunes	Design Modifications; Implement Wetland Restoration Plan	During Design and Construction
Cultural Grasslands	Design Modifications; Implement Coastal Dune Restoration Plan	During Design and Construction
Invasive Species Management	Implement Invasive Species Management Plan	During Design and Construction
Stormwater Management	Implement Stormwater Management Design for Auto Parking	During Design and Construction
Rare Species Habitat	Implement Resource Mitigation Plans; Implement Construction Management Plan and Turtle Protection Plan Implement Operational Mitigation, VMP, and Invasive Species Plans	During Design, Construction, and Operational Phases
Visual	Finalize and Implement Landscape Plan	During Design and Construction
Hazardous Materials	Dispose of all construction materials in accordance with all regulations.	As Needed
Construction Impacts	Implement Construction Management Plan	Construction Phase

Source: FEIR/EA/DRI,EEA No. 13789, 2009

Findings

The Massachusetts Natural Heritage and Endangered Species Program finds that with implementation by the Airport Commission of the mitigation measures described above, all practicable means and measures will have been taken to avoid or minimize adverse impacts to the environment relating to the proposed Provincetown Municipal Airport CIP projects. These proposed measures will be included as conditions in the Conditional No Take determination issued by NHESP. This Finding is limited to the subject matter jurisdiction of the MESA.

Print Name: ______________________________ Date:______________

Title: ____ Mass NHESP

9.4 Section 4(f) Evaluation

Section 4(f) Evaluation

Submitted pursuant to 49 USC 303(c)

Capital Improvements Plan
Provincetown Municipal Airport

1. Introduction

The Provincetown Municipal Airport (Airport) is within the Cape Cod National Seashore (CCNS) sited on approximately 322 acres of federally owned land administered by the National Park Service (NPS).The Provincetown Municipal Airport Commission proposes a Capital Improvements Plan (CIP) of safety and facility improvements at the Airport.

This Section 4(f) Evaluation is based on, and incorporates by reference, the 2010 Final Environmental Impact Report /Environmental Assessment/Section 4(f) (FEIR/EA) and presents potential effects to parklands as a result of the proposed project. This Evaluation demonstrates that there is no prudent and feasible alternative that would avoid using the land, and that all possible planning to minimize harm has been incorporated into the project design.

Title 49, USC Section 1653, 4(f) of the Department of Transportation Act of 1966 [now codified at 49 USC Section 303(c)] states that the Secretary of Transportation may approve a transportation program or project requiring the use of publicly-owned land of a public park, recreational area, or wildlife and waterfowl refuge of national, state, or local significance or land of an historic site of national, state, or local significance as determined by the official having jurisdiction over the site only if:

(1) there is no prudent and feasible alternative that would avoid using that land, and
(2) the program or project includes all possible planning to minimize harm resulting from the use.

As a modal administration within the U.S. DOT, the Federal Aviation Administration (FAA) is responsible for Section 4(f) determinations for airport actions. The FAA's Office of Airports (ARP) is responsible for reviewing and deciding on projects the airport sponsors propose for public-use airports.

In general, a Section 4(f) "use" occurs with a Department of Transportation (DOT) project or program when 1) Section 4(f) land is permanently incorporated into a transportation facility; 2) when there is a temporary occupancy of Section 4(f) land that is adverse in terms of section 4(f) preservationist purposes as determined by specified criteria (*23 CFR Section 771.135(p)(7)*; and 3) when Section 4(f) land is not incorporated into the transportation project, but the project's proximity impacts are so severe that the protected activities, features, or attributes that qualify a resource for protection under Section 4(f) are substantially impaired (constructive use) *23 CFR Section 771.135(p)(1 and 2)*.

This Section 4(f) Evaluation has been prepared in accordance with the Airports Desk Reference Chapter 7, October 2007 and FAA NEPA Implementing Instructions for Airport Actions. Consistent with FAA Order 1050.1E the term Section 4(f) will be used in this document. Consultation has been initiated with the Department of the Interior, National Park Service, Cape Cod National Seashore (CCNS), and is ongoing for the project.

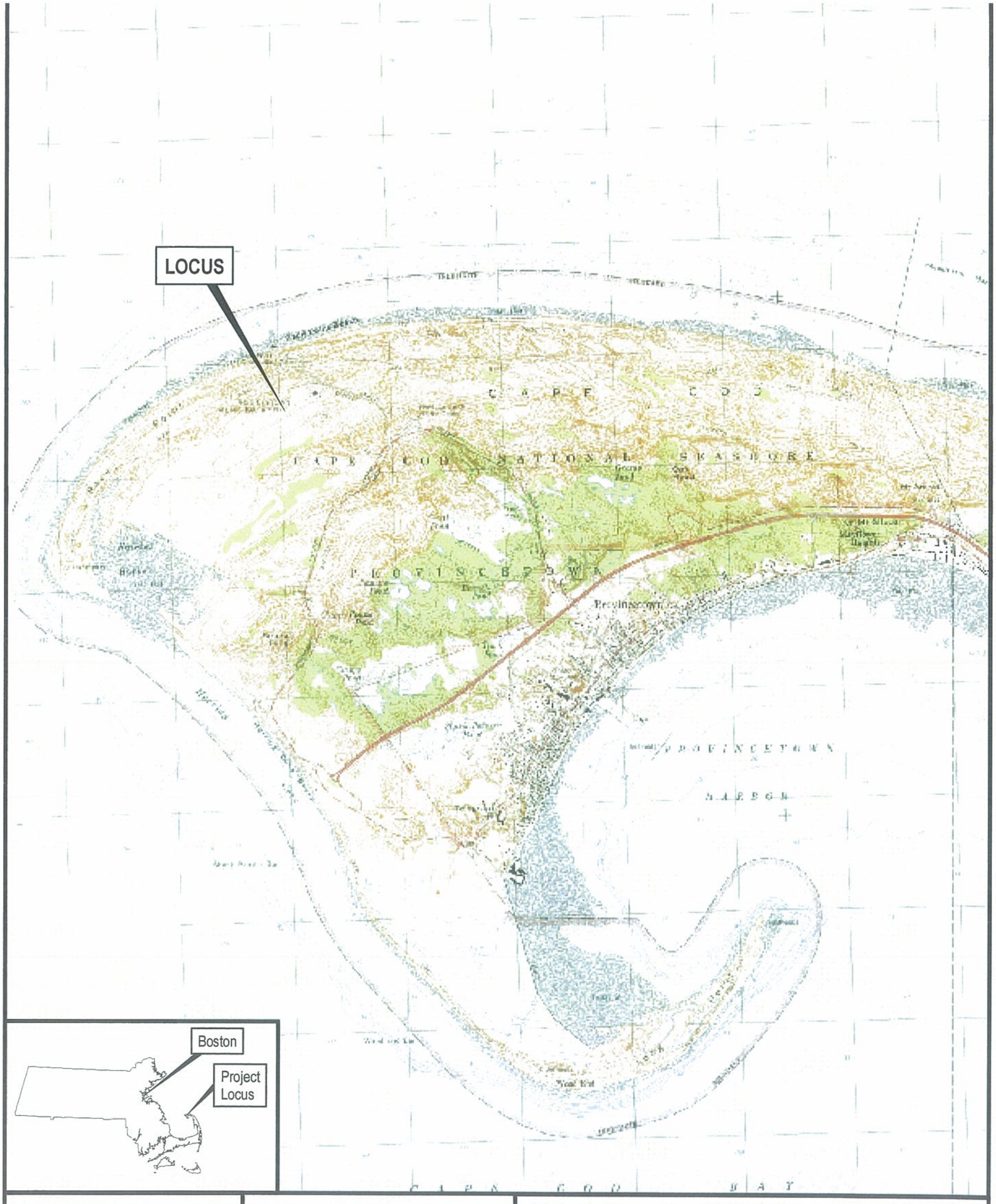
2. Description of 4(f) Property

The Cape Cod National Seashore (CCNS) consists of approximately 44,000 acres, which includes lands under the ownership of NPS as well as land under state, town and private ownership. The CCNS includes natural and cultural resources with a history of economic and recreational activities. The Airport is sited on approximately 322 acres of federally owned land administered by the NPS within the CCNS on the northern tip of Cape Cod (**See Figure 1 USGS Locus**). Recreational activities in the vicinity of the Airport include hunting, biking, hiking, beach activities, trails for Off Road Vehicle (ORV) use, bird watching, and nature walks.

The Airport was constructed in the 1940s on land that was filled in behind a dike constructed across Hatches Harbor and pre-dates the CCNS. Since the establishment of the CCNS in 1961, the land on which the Airport is located has been under the ownership of the NPS. As part of the land acquisition for the CCNS, the Commonwealth of Massachusetts authorized the Deed of Conveyance for the Province Lands in 1962. The deed restriction in the conveyance title recognizes the pre-existing lease agreement between the Commonwealth of Massachusetts and the Town of Provincetown for the Airport facilities and access roads. A Special Use Permit exists between the NPS and the Provincetown Airport Commission to establish policies, procedures and other terms under which Airport operations and improvements are carried out. The property leased to Provincetown for airport operations is identified by the NPS in the 1998 General Management Plan for the CCNS, *Forging a Collaborative Future* as an Administration/Operations Special Use Management Subzone. The Management Plan identifies the qualitative characteristics for the management zones. The Tolerance for Resource Degradation in the Administration/Operations Special Use Zone is rated as "High."

The CCNS, in the vicinity of the Airport, consists of natural and cultural elements. Natural elements include coastal dunes, grasslands, wetlands, and the Hatches Harbor salt marsh. The vegetation cover includes grasses, shrubs, and thickets of pitch pine and scrub oak.

Nearby man-made elements include NPS buildings such as the Old Harbor Life Saving Station, the Province Lands Visitor Center and its 170-car parking lot, as well as the tiered, approximately 340-car parking lot for Race Point Beach. Paved roadways, including Race Point Road and Province Lands Road, and the NPS bike path are also man made elements within the visual environment.



Prepared By:

JACOBS

Approx. Scale in Feet

0 4,000

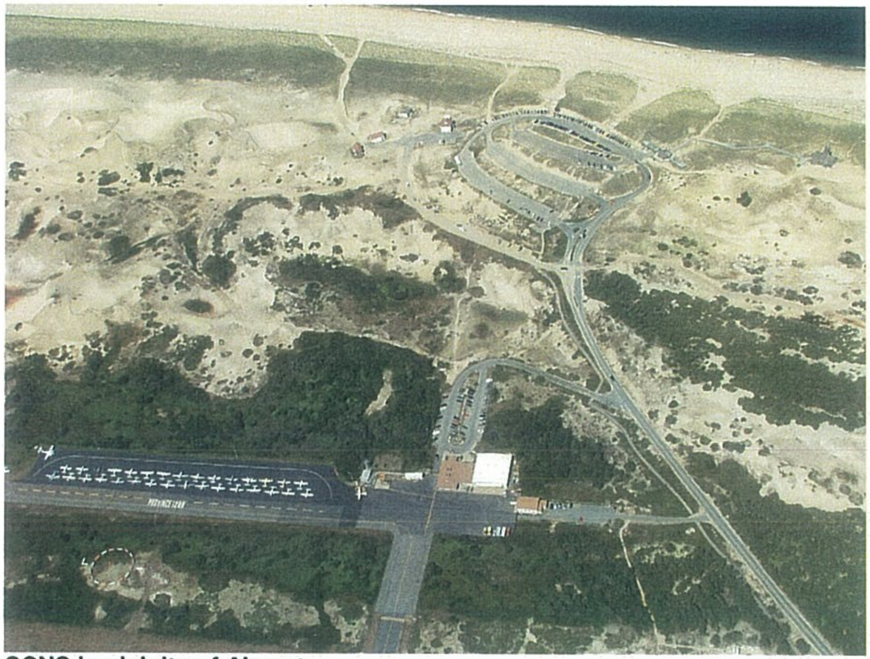
Data compiled from the following source: MassGIS, Commonwealth of Mass. EOEA

Provincetown Municipal Airport
Capital Improvements Plan

LOCUS MAP

Figure 1.1

The vertical man-made elements within the Airport lease area include several buildings of various sizes such as the terminal building, the hangar, the maintenance equipment building, the Sightseeing Shack, and sections of existing security fence. Additional vertical elements at the Airport include the FAA instrumentation tower and light poles. The Airport area also has flat horizontal elements including the runway, the system of taxiways, managed grassland safety areas, the weather/navigation equipment within the infields and aircraft parking areas (referred to as aprons or ramps), as well as a 62 space visitor parking lot and a 20 space employee parking area.



CCNS in vicinity of Airport

Coordination has been carried out with the Massachusetts Historical Commission (MHC) regarding the historical significance of the Sightseeing Shack and other significant historic or archaeological resources within the Airport lease area. MHC determined that the CIP project is unlikely to affect significant historic or archaeological resources. CCNS has concurred with MHC that no historic structures are present in the immediate area of potential effect and the CCNS park archaeologist has determined that no archaeological testing is necessary for the fence or taxiway lights projects. This coordination is documented in the Final EIR/EA document.

3. Purpose and Need

The purpose of the CIP project elements is to:

- Enhance Airport safety and security.
- Enhance the efficiency of the Airport to more fully meet the current and anticipated demand.

Several of the CIP projects will provide operational safety and security improvements at the Airport that comply with current FAA, Massachusetts Department of Transportation (MassDOT) Aeronautics Division, and transportation security administration (TSA) safety and security design standards for a non-hub primary service airport. The use of these standards is mandatory for airport projects receiving Federal grant-in-aid assistance. It is the policy of the Airports Division of the FAA New England regional office that airport improvement projects must comply with the national airport design standards.

Three of the CIP projects will address existing and anticipated capacity needs. The proposed addition to the Terminal would replace the lost passenger space taken by TSA for secure waiting areas, and passenger and baggage screening, and support future passenger needs. The proposed improvements to the parking lot and the turf apron are design to address the current and projected needs at the Airport.

Need

The CIP projects are needed because:

- Certain airfield facilities do not meet current safety and security standards.
- The Airport's existing parking and terminal facilities cannot efficiently meet current and projected demand.

Implementation of the CIP will fulfill the mission of the Airport to operate a safe, secure, and reliable primary service airport receiving scheduled airline passenger service.

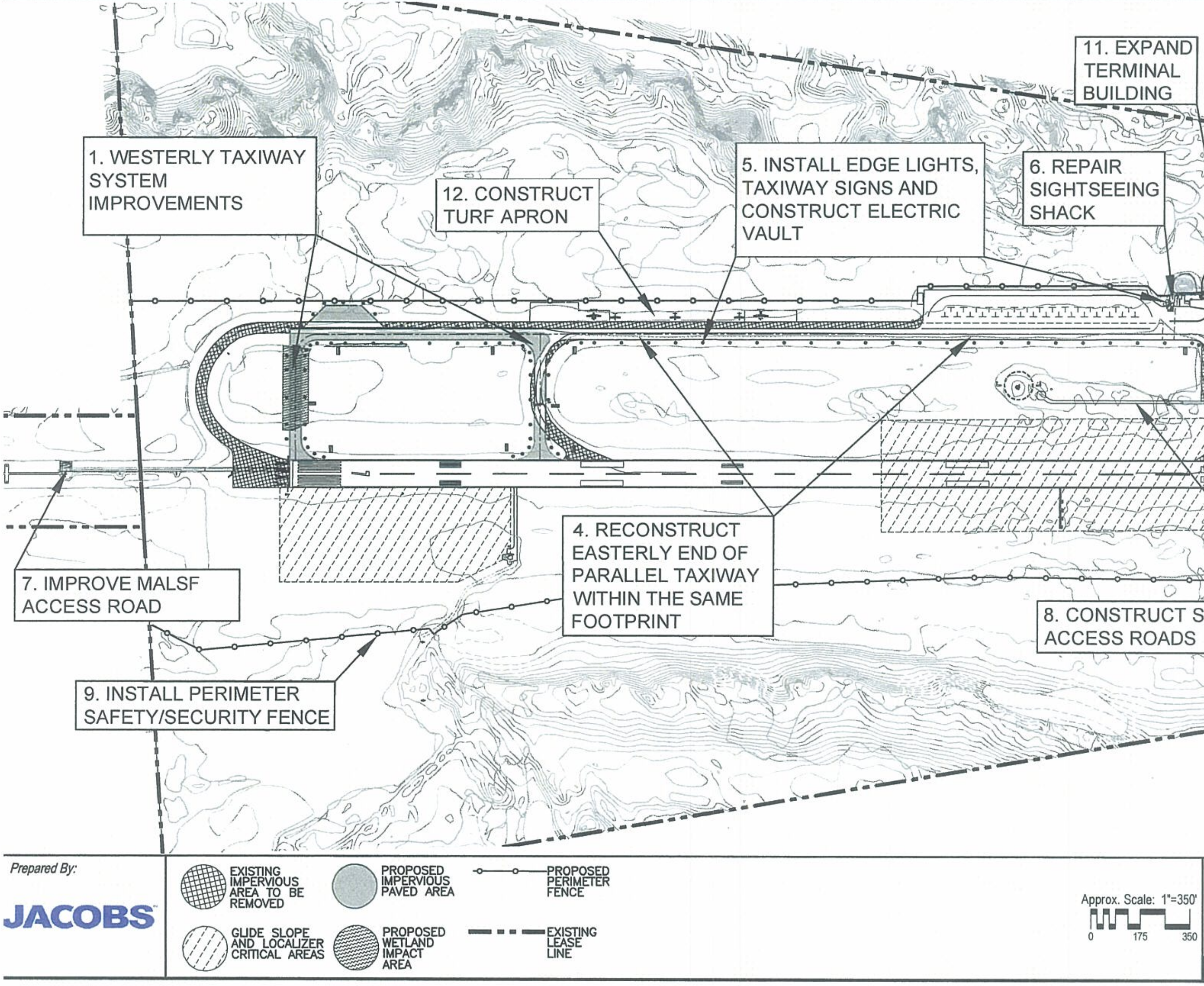
4. Proposed Project

The twelve elements in the Airport CIP projects are described below and located on **Figure 2, Project Overview**.

4.1 Westerly Taxiway System Improvements

The project to improve the westerly taxiway system would: 1) relocate the West End taxiway out of the FAR Part 77 approach surface to the airport and construct an L-shaped intersection with a right angle to the runway for operational safety; 2) realign and reconstruct the westerly end of the parallel taxiway with a run-up pad; and, 3) realign the Mid Connector taxiway.

The Parallel taxiway centerline shifts twenty feet to the north between the mid connector taxiway and the west runway entrance taxiway. This shift in the centerline requires the pilot to change speed and direction, which presents a hazardous situation to pilots during nighttime and low visibility conditions. The realignment also provides the opportunity to remove some pavement along the length of the parallel taxiway, which will be reconstructed with a reduced width in the west end.


1. WESTERLY TAXIWAY SYSTEM IMPROVEMENTS
12. CONSTRUCT TURF APRON
5. INSTALL EDGE LIGHTS, TAXIWAY SIGNS AND CONSTRUCT ELECTRIC VAULT
6. REPAIR SIGHTSEEING SHACK
11. EXPAND TERMINAL BUILDING
10. EXPAND AUTO PARKING
3. RECONSTRUCT TERMINAL APRON WITHIN THE SAME FOOTPRINT
2. RELOCATE EAST END TAXIWAY
4. RECONSTRUCT EASTERLY END OF PARALLEL TAXIWAY WITHIN THE SAME FOOTPRINT
7. IMPROVE MALSF ACCESS ROAD
8. CONSTRUCT SERVICE ACCESS ROADS
9. INSTALL PERIMETER SAFETY/SECURITY FENCE
EXISTING IMPERVIOUS AREA TO BE REMOVED
PROPOSED IMPERVIOUS PAVED AREA
PROPOSED PERIMETER FENCE
GLIDE SLOPE AND LOCALIZER CRITICAL AREAS
PROPOSED WETLAND IMPACT AREA
EXISTING LEASE LINE
Approx. Scale: 1"=350'
0
175
350

Prepared By:

JACOBS

Provincetown Municipal Airport
Capital Improvements Plan

PROJECT OVERVIEW

Figure 1.2

4.2 Relocate East End Taxiway

The relocation of the East End connector taxiway would shift the taxiway approximately 200 feet to the east so that it connects at the end of Runway 25. The East End taxiway has the standard design of a ninety-degree intersection but does not comply with the design standard to connect with the end of Runway 25. FAA design standards require entrance taxiways intersect the runway at the runway ends with a right angle to the runway for operational safety.

4.3 Reconstruct Terminal Apron

The project would reconstruct the Terminal Apron within the existing footprint. The terminal apron pavement has deteriorated to fair condition. This footprint pavement project was given clearance to go forward with construction and has been completed.

4.4 Reconstruct Easterly End of Partial Parallel Taxiway

The pavement is in poor condition. The width of the easterly end of the parallel taxiway is currently 60 feet. As part of the reconstruction and the westerly taxiway improvements, the width would be reduced to 40 feet.

4.5 Install Taxiway Lighting, Signage, and Construct Electric Vault

The project would install taxiway edge lights and signs along the edge of the taxiways. Construction of a new electric vault is also part of this CIP element. The electric vault would consist of a 10 by 20 foot structure, approximately 10 feet high and similar in appearance, size and exterior to the existing utility buildings for the localizer and the glide slope equipment. The taxiways currently have reflectors but the lack of lighting and directional signs can be a safety hazard during inclement weather or sudden fog conditions. Improvements to the lighting system for the taxiways would require additional space for the airfield electric vault, which is currently located inside the sightseeing shack. A separate electrical vault is required to support the new lighting system, to allow adequate space that meets electrical code, and bring the system up to standards.

4.6 Repair Sightseeing Shack

The Sightseeing Shack would be repaired as needed after the electrical equipment is removed as part of the taxiway edge lights project. The project would occur within the existing footprint for the building and surrounding access area.

4.7 Improve Access Road to Approach Lights

To provide for a vehicle turn-around area, the embankment for the existing 10-foot wide gravel service road would be widened at the western end. The area would be 30 feet wide and 30 feet long to allow the required maintenance vehicles to turn around. In compliance with FAA requirements, the first 300 feet of the single-lane service road off the runway will be paved.

Several years of FAA service vehicle operations on the access road have confirmed the need for an improvement to the road. Because of the narrow width and lack of a turn-around area, FAA service vehicles must back up for a distance of 400 feet before being able to turn around. Without shoulders, this maneuver has always been difficult because the drivers of the FAA utility vehicles have difficulty seeing the edge of the road, especially in poor weather. Providing a turn-around will reduce the risk of a vehicle slipping off the raised road and avoiding any potential contamination into the marsh.

4.8 Construct Service Access Roads to AWOS and LES

The service access roads would provide vehicle access from the East End taxiway outside the active runway operating area. The access roads would be 10 feet wide with one-foot grass shoulders on each side and would include a turn-around area. The roads would be paved for the first 300 feet.

The purpose of constructing access roads is to comply with FAA operational standards by providing service vehicle access to the airfield equipment. The service access roads would improve maintenance access, especially in inclement weather or emergencies.

4.9 Install Perimeter Fence

A nine-foot high perimeter safety security fence would be constructed. The proposed alignment for the safety/security fence includes a four-foot wide maintained area on both sides of the fence.

The purpose of the perimeter fencing is to enhance both safety and security. First, the fencing would improve safety by deterring deer and coyote, as well as hunters and hikers, from encroaching on the airfield's operational area. Additionally, for the safety and security of all users of the CCNS, the perimeter fence is proposed to separate areas designated for airport operations from airport lease areas that are currently used by the public for recreational activities. Secondly, fencing secures the Airport Operating Area (AOA), the Security Identification Display Area (SIDA), and other security areas from unauthorized access, in compliance with TSA Guidelines.

4.10 Expand Auto Parking

This two-phase project would construct 28 additional spaces for Phase 1. After additional parking studies and subsequent review and approval by NPS and Cape Cod Commission (CCC), Phase 2 would construct up to 29 additional spaces, if needed.

The Airport currently provides 62 parking spaces. There is a need for additional auto parking spaces at the Airport. Current parking needs range from 62 to 126 spaces over weekday or weekends.

4.11 Expand Terminal Building

The proposed expansion of the Terminal building would add a second floor above the existing building. Public use area in the terminal lobby is needed to replace the area occupied by the TSA screening areas and space for security personnel. The public space has been decreased by 61 percent due to TSA operations that were not incorporated into the design for the current building.

4.12 Expand Turf Apron

The construction of additional turf apron would be located between the two existing areas for turf apron parking adjacent to the parallel taxiway.

There is inadequate paved aircraft parking space during the summer and this seasonal overflow demand is accommodated on designated turf areas alongside the taxiway. At times, the Mid Connector taxiway is shut down in order to provide overflow parking. This creates an operational safety issue, due to the hazard of using an aircraft movement area for parking airplanes. The need for parking ranges from an additional five spaces in the short-term to eight spaces to address the long-term aircraft parking needs.

5. Alternatives Considered

This section describes the Preferred Alternative (Proposed Action), the No Action, and reasonable alternatives (if any) for each of the proposed projects. As defined in FAA Order 5050.4B, the Proposed Action is "the solution the airport sponsor wishes to implement to solve the problem(s) it is facing." Alternatives to the Proposed Action that would avoid the Section 4(f) property have been considered and evaluated. An explanation is provided to justify why some alternatives have been deemed "not reasonable" and were subsequently eliminated from further analyses.

5.1. Westerly Taxiway System Improvements

The potential impacts of improving the westerly end of the TW system at the Airport have been evaluated. The sub-elements of the Westerly Taxiway System consist of the West End Connector Taxiway, the Westerly End of Parallel Taxiway, and the Mid Connector Taxiway. Two alternatives have been analyzed for environmental impacts, and two alternatives have been considered but rejected. The two alternatives analyzed are the No Action alternative and an alternative that would construct westerly TW system improvements.

5.1.1 No Action

The No Action alternative would maintain the West End TW in its current location and would not address the operational safety issues at the Airport. The taxiway would continue to be located within the clear zone in the approach for Runway 7, which creates the potential for collision between a landing aircraft and a plane waiting to takeoff. Aircraft would continue to taxi onto the runway parallel to the runway end and out of visual contact with approaching aircraft. Aircraft would continue to hold short of the runway which limits their view of the runway and other aircraft.

The No Action alternative would maintain the jog in the parallel taxiway, would not replace the pavement which is over 20 years old and in poor condition, and would not address the operational safety issues at the Airport. Paved surfaces at airports must be maintained in good condition. Airfield pavement standards estimate a useful lifespan of 20 years, after which pavement is eligible for reconstruction.

While no impacts to 4(f) resources would occur with the No Action alternative, the No Action alternative would maintain the existing Mid Connector TW with the non-standard jug-handle intersection with the runway and the parallel taxiway. It would also not align properly with the proposed relocated West End TW and the proposed realigned westerly end of the parallel TW. No impacts to resources would occur with the No Action alternative because there would be no construction or change in current conditions.

5.1.2. Westerly TW System Improvements (Proposed Action and Preferred Alternative)

The sub elements of the Westerly Taxiway System consist of:

A. West End Connector Taxiway
B. Westerly End of Parallel Taxiway
C. Mid Connector Taxiway

The sub elements are discussed individually but will be combined as one project in terms of permitting and construction because the elements would be constructed at the same time.

(A.) Relocate West End Taxiway with Standard Right Angle Out of the Runway 7 Approach

The alternative to relocate the West End TW would address the operational safety issues and would be in compliance with FAA design standards. The taxiway would connect with the end of the runway at a right angle and would be located out of the approach for the runway.

(B.) Realign Westerly End of Parallel Taxiway

This alternative would shift the westerly end of the parallel TW to meet the existing edge of pavement of the easterly portion of the parallel TW. A run-up pad, as required by FAA design standards for new construction, would also be constructed at the end for aircraft to perform required engine and systems checks before takeoff, without blocking the taxiway. The parallel TW would be reconstructed with a consistent width of 40 feet. Since the pavement width is currently 60 feet, pavement would be removed. Cultural Grassland habitat would be restored in areas of pavement removal.

(C.) Realign Mid Connector TW

The alternative to realign the Mid Connector TW would provide a standard 90 degree intersection design. The aging pavement would also be reconstructed to address the hazard of loose pavement causing harm to aircraft and passengers. The project would be constructed within the existing area of pavement and managed Cultural Grassland habitat.

Collectively, the three elements of the Preferred Alternative for the Westerly TW System Improvements would result in alterations to approximately 28,655 SF of wetlands, 6,400 SF of coastal dune, rare species habitat for one or more state-listed species, as well as temporary impacts to grassland habitats. Proposed mitigation measures would restore or create these resource areas and habitats from existing paved surfaces that would be removed.

5.1.3 Alternatives Considered But Rejected

"Existing Footprint Alternative." The alternative that would reconstruct the West End TW within the existing footprint was suggested by others as a way to minimize impacts to wetland and grassland habitats. This alternative would provide a standard right angle connection to the runway, but the taxiway would continue to be located within the approach to Runway 7. Likewise, the risk of collisions would not be reduced because aircraft would continue to enter parallel to the runway end, rather than perpendicular to the end of the runway.

This alternative would have unavoidable impacts to approximately 13,665 SF in Wetlands I and C/J/FK, as well as additional impacts to grassland habitat.

The alternative that would reconstruct the existing TW footprint with a standard right angle within the existing footprint has been deemed unsafe and unfeasible because it would not comply with the FAA safety and design standards and it would not address existing operational safety issues. This alternative has been dismissed from further review.

"Lights on Existing Parallel TW Alternative" It was suggested by others that installation of taxiway lights alone on the existing taxiway could address the safety issues relative to the jog in the partial parallel taxiway. Environmental impacts with this alternative would be limited to minor impacts to grassland habitat. However, pilots do not expect to encounter a jog mid-way along a parallel taxiway. Installation of edge lights would not fully eliminate the non-standard hazardous condition of maneuvering the aircraft through an unexpected turn at night or in bad weather conditions, and would not correct the operational safety issues created by the misaligned pavement. This alternative has been dismissed from further review.

5.2 East End TW Relocation

Two alternatives for the East End Taxiway Relocation have been analyzed, including the No Action alternative and an alternative that would relocate the East End TW to connect with the end of Runway 25.

5.2.1 No Action

The No Action alternative would maintain the 200-foot offset between the end of Runway 25 and East End TW. Aircraft would continue to back-taxi on the active runway, maintaining the current unsafe conditions by possibly interfering with landing aircraft. No impacts to resources would occur with the No Action alternative, as there would be no construction or change in existing conditions.

5.2.2 East End TW Relocation (Proposed Action and Preferred Alternative)

The alternative to relocate the East End TW to connect with the end of the runway would be in full compliance with FAA mandated design standards without impacting the terminal apron. There would be a slight curve in the East End TW centerline to avoid aircraft on the terminal apron. This configuration would not present a safety hazard because the terminal apron is well lit with overhead lighting, and planes are moving slowly as they enter the East End TW. Implementation of this alternative would result in alterations to approximately 28,300 SF of Wetland B. Proposed mitigation measures would restore or create these resource areas and habitats from existing paved surfaces that would be removed.

5.2.3 Alternatives Considered But Rejected

No other alternatives were identified.

5.3 Terminal Apron Reconstruction

Two alternatives for reconstruction of the Terminal Apron pavement were evaluated, including the No Action alternative and an alternative that would reconstruct the Terminal Apron pavement.

5.3.1 No Action

The No Action alternative would retain the existing pavement, and would not address the Airport safety issues associated with deteriorated pavement. As previously noted, paved surfaces at airports must be maintained in good condition and are eligible for reconstruction after 20 years. No impacts to environmental resources would occur as a result of the No Action alternative because the pavement would not be reconstructed adjacent to wetland or coastal dune resources.

5.3.2 Reconstruct Terminal Apron within the Existing Footprint (Proposed Action and Preferred Alternative)

The Preferred Alternative would reconstruct the terminal apron pavement within the same footprint to address Airport safety issues. As there would be no environmental impacts, and the implementation of this project element would neither preclude or constrain considerations for all other CIP elements, the Secretary of Energy and Environmental Affairs allowed the Airport to proceed with the reconstruction of the Terminal Apron within the same footprint prior to the completion of the FEIR as iterated in the MEPA Certificate issued on the NPC/DEIR.

The Airport applied for an Order of Conditions (OOC) from the Provincetown Conservation Commission. Coordination was also carried out with staff at the Massachusetts Natural Heritage & Endangered Species Program (NHESP) regarding requirements under MESA, and this project qualifies as an exempt project pursuant to 321 CMR 10.14 (8): "the maintenance, repair or replacement, but not widening of existing paved roads, …and paved parking areas,..." NHESP reviewed and commented as part of the Notice of Intent (NOI) process under the Wetland Protection Act. The project will, however, be included in the Massachusetts Endangered Species Act

(MESA) application for the Airport's CIP projects to avoid segmentation. The project was issued an OOC (DEP File No. 058-0440), and construction was completed in fall 2008.

5.3.4 Alternatives Considered But Rejected

No other alternatives were identified.

5.4 Easterly End of Parallel TW Reconstruction

Two alternatives were evaluated in this FEIR/EA for reconstructing the easterly end of the Parallel TW pavement, the No Action alternative and an alternative that would reconstruct the pavement.

5.4.1 No Action

The No Action alternative would retain the existing pavement which is over 20 years old and in poor condition. Pavement at airports is required to be maintained in good condition. The No Action alternative would result in increasing safety concerns for pilots and their passengers. There would be no impacts to environmental resources with the No Action alternative because there would be no pavement reconstruction near wetland or other natural resources.

5.4.2 Reconstruct Parallel TW within Existing Footprint (Proposed Action and Preferred Alternative)

The Preferred Alternative would reconstruct the pavement within the same footprint, but with a reduced pavement width of 40 feet. Grassland habitat would be restored in the pavement removal areas.

5.4.3 Alternatives Considered But Rejected

No other alternatives were identified.

5.5 Taxiway Lighting and Electric Vault

Two alternatives have been analyzed for resource impacts, and two alternatives have been considered but rejected. The two alternatives analyzed are the No Action alternative and an alternative that would install edge lights and construct an electric vault adjacent to the existing Sightseeing Shack.

5.5.1 No Action

Implementation of the No Action alternative would maintain the taxiway edge reflectors and not upgrade the electric equipment that would remain inside the Sightseeing Shack. There would be no environmental impacts as a result of the No Action alternative because there would be no construction or disturbance within the managed grasslands.

5.5.2 Install TW Lighting and Lighted TW Signs, and Construct Electric Vault (Proposed Action and Preferred Alternative)

Install TW Lighting and Lighted TW Signs

The alternative to install TW edge lights would locate the lights 10 feet off the edge of pavement along the entire length of the taxiway as required by FAA design standards, and lighted TW signs would be installed to identify the locations of each TW. The electric cable for the lights and TW signage would be installed within the existing mowed grassland habitat using the cable plowing method which does not require trenching. The area would be restored as grassland. Construction timing and other construction mitigation measures would minimize rare species habitat impacts. Lighting is controlled by pilots remotely and would only be operational during landings and takeoffs under inclement weather conditions or at night. Disruptions to Vesper Sparrows or other species are anticipated to be minimal and would be no different than the existing lighting system for the runway.

Construct Electric Vault

With the Preferred Alternative, the constructed Electric Vault would be located immediately adjacent to the Sightseeing Shack (Alternative 1) in an area of managed grassland, which is isolated from larger expanses of grassland habitat at the Airport. Electric equipment currently housed within the Sightseeing Shack would be upgraded to current electric codes and housed within a new vault adjacent to the Sightseeing Shack. The location of the Electric Vault under the Preferred Alternative would be close to the existing electrical service and equipment, which would minimize the distance for the new main cable connection. Environmental impacts would be minimal.

5.5.3 Alternatives Considered But Rejected

Alternative Construction Method for Light Installation

The trenching construction method for the cable adjacent to the TW would excavate a trench approximately eight inches wide by two feet deep to install the electric cable, and would result in more grassland disturbance compared to the cable method. This construction component alternative has been dismissed from further review.

Alternative Vault Locations

Two alternatives were considered for the location of the proposed Electric Vault. Alternative 2 would locate the vault behind the paved GA apron. Alternative 3 would locate the vault at the far west end of the paved GA apron. Each of these alternatives would result in environmental impacts within an area of managed cultural grassland that is contiguous with expanses of this habitat at the Airport and/or impacts to freshwater wetlands (Wetland C) in order to accommodate the conduit for the cable, which would need to avoid other underground utilities in the area. The Preferred Alternative meets the project need with fewer impacts. These alternatives have been dismissed from further review.

5.6 Sightseeing Shack Improvements

The two alternatives that have been evaluated are the No Action alternative and an alternative that would repair or replace the building within the existing footprint. It should be noted that improvements to the Sightseeing Shack would be considered a Connected Action to the Installation of TW Lighting and Lighted TW Signs, and Construct Electric Vault as the improvements to the Sightseeing Shack would be tied to the relocation of the electrical equipment that is currently housed within the Sightseeing Shack.

5.6.1 No Action

The No Action alternative would allow the existing structure to remain in its present condition, housing the existing electrical equipment that is not up to current electric codes. No impacts would occur to natural resources under the No Action alternative because there would no construction adjacent to natural resources and no change to the building.

5.6.2 Repair or Replace Building (Proposed Action and Preferred Alternative)

Under this alternative, following the relocation of the existing electrical equipment, the Sightseeing Shack would either be repaired (Preferred Alternative), or the walls would be replaced, as necessary. No long-term environmental impacts would occur as a result of this action. The Massachusetts Historical Commission (MHC) has determined that the building is not historically significant.

5.6.3 Alternatives Considered But Rejected

No other alternatives were identified.

5.7 Access Road to MALSF Approach Lights

Two alternatives have been analyzed for environmental impacts, including the No Action alternative and an alternative that would construct a turn-around. Three alternatives have been considered but rejected.

5.7.1 No Action

The No Action alternative would maintain the existing gravel/earthen access road with narrow embankments. As a result, vehicles accessing the MALSF for maintenance or repairs would continue to need to back up for a distance of approximately 400 feet along the narrow access road, and the associated safety issues would continue to exist. There would be no impacts to resources associated with the No Action alternative, because construction would not occur.

5.7.2 Construct Turn-Around (Proposed Action and Preferred Alternative)

The Preferred Alternative would involve the construction of a turn-around area, so that vehicles would no longer have to back up the length of the narrow access road. The proposed turn-around area would be 30 feet wide and 30 feet long to provide adequate space for a vehicle to safely reverse direction. The turn-around area would alter approximately 960 SF of Wetland C/J/FK, and would be constructed along the north side of the embankment so that it would not interfere with the approach lights. The material used to construct the turn-around would be delivered to the site and would not be excavated from the adjacent wetland area. Proposed compensatory mitigation for lost wetland area would be provided nearby at a greater than 1:1 ratio from an area of existing managed grasslands to preserve an environment that supports the natural diversity found within the CCNS. Additional mitigation measures, including construction measures, would be implemented to minimize and avoid further resource area alteration and help to protect the natural landscape of the CCNS.

While this alternative would directly alter an area of wetland, measures to mitigate possible adverse impacts of the project would include avoidance of impacts to the extent possible, resource restoration, and other construction mitigation measures. In addition, an invasive species management plan would be implemented to preserve an environment that supports the natural diversity found within the CCNS.

5.7.3 Alternatives Considered But Rejected

Reduced Turn-Around Footprint with Curbing: A smaller turn-around area with curbing installed along the length of the access roadway to alert drivers to the limits of the roadway width was considered. This alternative would reduce but not eliminate direct wetland impacts. A structure as low as a concrete curb could not be installed, as it would constitute a vertical penetration into the Runway 7 approach surface and would not be allowed under FAA regulations. This alternative has been dismissed from further review.

Guardrail: Installation of a guardrail along the length of the existing access roadway was also considered as an alternative, but was deemed unfeasible because of the vertical penetration into the Runway 7 approach surface. Any objects that need to be located within this object free approach area must be frangible (able to be snapped off on impact), which would defeat the function of a guardrail. In addition, the roadway embankments would need to be widened to accommodate the construction of the guardrail without losing width along the roadway, necessitating additional wetland alteration. This alternative has been dismissed from further review.

Acquire a Utility Vehicle: The Airport has also considered acquiring a utility vehicle for the purposes of accessing the MALSF equipment for maintenance or repair. This alternative would not result in environmental impacts. FAA personnel would need to transfer their equipment to a smaller utility vehicle. However, FAA personnel need access to all equipment in their vehicles during all weather conditions, and could not feasibly transfer all equipment to a small utility vehicle at one time. The runway is required to be shut down for certain inspection or maintenance procedures, and transferring necessary equipment that would not fit within a smaller vehicle at one time, would result in potential unnecessary delays at the Airport. This alternative has been dismissed from further review.

Construct Shoulders (Option 1): This alternative would widen the entire length of the MALSF access road embankments to construct two-foot shoulders on each side of the existing access road. This alternative would impact approximately 1,800 SF of Wetland C/J/FK, and would not eliminate the safety hazard of vehicles needing to back up for 400 feet. This alternative has been dismissed from further review.

5.8 Service Access Road to the Weather Station (AWOS)

Two alternatives were analyzed for the Service Access Roads to the AWOS, including the No Action alternative and an alternative that would construct an access road to the AWOS behind the hold line and off the East End TW (Alternative 2). Several other alternatives have also been considered and rejected for this project element.

5.8.1 No Action

The No Action alternative would retain the lack of defined access routes to the AWOS, which would prevent vehicle access to the site other than via the runway operating area. Even though there are a few circumstances when service on the AWOS requires the runway to be shutdown, most inspection and maintenance operations are carried out so that the runway can remain active. Although there would be no direct long-term adverse impacts to natural resources, vehicle access to the equipment stations results in temporary impacts to natural resources and habitat each time vehicles traverse these naturally vegetated areas.

5.8.2 Service Access Road to AWOS (Alternative 2)

The Preferred Alternative would construct a 10-foot wide defined access roadway, which would be paved for the first 300 feet off the East End TW, in full compliance with FAA standards. The access road to the AWOS would alter 290 SF of Wetland H. Proposed mitigation measures, including construction timing measures and compensatory mitigation for the loss of natural resources would be proposed as part of this alternative.

5.8.3 Alternatives Considered But Rejected

Pavement Alternatives: The alternative of constructing the roads from a porous pavement was evaluated. Porous pavement is a special type of pavement that allows rain and snowmelt to infiltrate, reducing runoff. However, these pavements require an intensive maintenance schedule and can easily become clogged with sands. Due to the sandy soils at the site and windy conditions that would blow sand onto pavement, this porous pavement has been dismissed from further review. Alternative types of pavement that would reduce any visual impacts (e.g., Natural Pave®, a sand-colored pavement, etc.) were also researched for these project elements, but use of these alternative pavement surfaces would result in unnecessary expenses since the service roads are not readily visible from public viewpoints. Use of alternative pavements has been dismissed from further review.

Acquire Utility Vehicle: The Airport has considered the use of an off-road utility vehicle for access to the AWOS. As with the use of a utility vehicle for the MALSF, this alternative has been deemed unfeasible because FAA personnel need access to all equipment in their vehicles and cannot feasibly transfer all the equipment to a smaller utility vehicle. Additionally, the use of a utility vehicle, while perhaps reducing the loading impacts within the coastal dunes and wetlands, would not eliminate the random access routes currently being taken by vehicles when accessing these equipment areas. This alternative has been dismissed from further review.

AWOS Alternative 1: Alternative 1 for the AWOS access road connects with the East End TW. The road would be approximately 800 feet long and would be paved in compliance with FAA standards. Alternative 1 would impact approximately 440 SF of Wetland H and would yield comparable impacts to coastal dunes and associated habitat as would occur under the Preferred Alternative. This alternative would align with the LES Alternative 1, but has been dismissed from further review, as a shift in the proposed alignments of both access roadways would reduce wetland impacts.

AWOS Alternative 3: Alternative 3 would connect with the parallel taxiway and, as with all of the alternatives for the access roadways, would be paved for 300 feet. Approximately 3,000 SF of Wetland H would be altered for this alternative. As other alignments would avoid wetland impacts to this degree, this alternative was dismissed from further review.

AWOS Alternative 4: This alignment has a direct connection with the active runway operating area, which would not meet FAA design standards and would not be allowed. This alternative would result in direct, permanent alterations to Wetland H (720 SF) and coastal dune and grassland habitat (3,480 SF). This alternative has been dismissed from further review.

AWOS Alternative 5: As with AWOS Alternative 4, this alignment has a direct connection with the active runway operating area (between the runway and the hold line of the taxiway), which would not meet FAA design standards and would not be allowed. The L-shaped configuration of this alternative alignment would result in direct, permanent alterations to720 SF of Wetland H and 9,840 SF of cultural grassland habitat. This alternative has been dismissed from further review.

5.9 Perimeter Safety/Security Fence

Seven alternatives have been designed for the construction of a Perimeter Safety/Security Fence, four of which have been carried forward and analyzed for permitting purposes. The four alternatives analyzed are the No Action alternative, and three fence alignments: Concept 6 (Final Preferred Alternative), Concept 4, and Concept 1 (Preferred Alternative in Draft EIR/EA). Three alternatives have been considered but rejected.

5.9.1 No Action

While the No Action alternative would have no direct impacts to the natural resources or habitats at the Airport, the No Action alternative would not address operational safety and security, visitor safety, and wildlife safety issues. The potential for deer and other (non-avian) wildlife to continue to come into conflict with operating aircraft, jeopardizing the safety of passengers and pilots using the Airport, would remain. Unauthorized persons would continue to have undeterred access to the currently unsecured airport operating area, and recreational users (including hunters) would remain a potential threat to the health and safety of aircraft operations and those using the Airport facilities. It should also be noted that TSA and MassDOT ban the possession of firearms in aircraft operational areas.

5.9.2 Perimeter Safety / Security Fence Concept 6 (Proposed Action and Preferred Alternative)

Concept 6 would involve the construction of an 11,700 linear foot (LF), nine foot high, black vinyl chain link security fence with two inch openings topped with three strands of barbed wire that would traverse areas of wetlands (1,898 SF). Direct impacts to natural resources would involve alterations associated with the installation of fence posts and conversion of forested and dense shrub areas to low growing communities as a result of vegetation management within the four-foot wide clear areas on either side of the fence. Indirect (secondary) impacts are based upon areas where vegetation is already open and/or low growing and will not require vegetation management, but may experience temporary alterations due to construction. Vegetation management within areas consisting primarily of *Phragmites* is also considered an indirect impact. Vegetation on either side of the fence must be maintained so that trees and tall shrubs will not visually obstruct the fence during monitoring and maintenance of the structure or jeopardize the structural integrity of the fence., while indirect alterations would be associated with the proposed four-foot wide swaths of mowed or maintained vegetation on both sides of the fence, which are required to be clear of trees and tall shrubs that may otherwise jeopardize the integrity of the fence. These areas would be either brush hogged or trimmed, but would not be graded. The cleared areas would allow for inspection of the fence. The close proximity of the fence alignment to the taxiway would allow a majority of the fence to occur within vegetated areas that are currently maintained and would eliminate the need for the construction of patrol roads for fence maintenance. The fence would connect with the existing sections of fence adjacent to the bike path and the SRE building. Additionally, Concept 6 would eliminate fencing at the west end around the ILS.

Approximately 113 acres would be partially enclosed with the Concept 6 fence alignment. However, the western-most end around the ILS would not be enclosed, thus eliminating direct impacts within tidally-influenced portions of Wetland C/J/FK. In consultation with the Massachusetts Natural Heritage and Endangered Species Program (NHESP), the fence design would incorporate gaps along the bottom to allow for the movement of Eastern Box Turtles, minimizing impacts to the movements of this state-listed rare species as well as other small animals.

The fence would be topped with barbed wire, which would serve as a deterrent to deer jumping the fence. Although deer can jump higher than nine feet, the angled wire along the top makes it difficult for them to judge the height of the fence. Additionally, cleared areas along the fence would allow deer to run along the outside of the fence (rather than jump the fence onto the active airfield if alarmed).

5.9.3 Perimeter Safety / Security Fence Concept 4

Concept 4 would involve the construction of an approximately 15,400 LF fence of similar design to that of the Preferred Alternative, although this fence alignment would continue to enclose the approach light system, completely enclosing the Airport facilities. Direct and indirect alterations to wetlands would occur with Concept 4. This concept would meet the project purpose and would not impact Airport operations or protected operational and navigational surfaces and object free areas.

5.9.4 Perimeter Safety / Security Fence Concept 1

The Concept 1 alignment follows the perimeter of the Airport lease area. The length of the fence would be approximately 24,000 LF, and would result in direct (34,067 SF) and indirect (33,800 SF) alterations to wetlands, while completely enclosing approximately 317 acres of the 322 acres of the Airport lease area. This alignment would require a 10-foot wide paved or gravel access road to allow for fence maintenance. The alignment would meet the project purpose and would protect Airport operations within airport operational areas and navigational surfaces. This alternative has been carried forward because it was identified as the preferred alternative in the draft EA/EIR.

5.9.5 Alternatives Considered But Rejected

The following alternatives that have been identified and dismissed.

- Concept 2: Apron Offset North; 500 Foot Primary Surface South
- Concept 3: Apron Offset North; 1,000 Foot Primary Surface South
- Concept 5: Apron Offset North; Wetland Offset South

Concept 2: Apron Offset North; 500 Foot Primary Surface South: This fence alignment would be offset approximately 320 feet from the runway centerline on the south side in compliance with the current FAA Waiver, and approximately 10 feet off the back of the aircraft aprons on the north side of the taxiway. It would enclose the ILS with a 10-foot wide area on the outside of the fence maintained to be clear of trees and shrubs, and a 10-foot wide vehicle travel path on the Airport side of the fence for security inspection patrols. The total length of the fence would be approximately 17,000 LF, enclosing approximately 104 acres. The alignment would directly and indirectly impact approximately four acres of wetlands (both bordering and isolated) and prime breeding habitat for the Eastern Spadefoot Toad with additional impacts to coastal dunes and associated habitats. In addition, Concept 2 has the potential to impact tidal flow and flood storage capacity since the portion of fence in the vicinity of the ILS may impede normal tidal flow and flooding during storm events.

Concept 2 would meet the project's purpose and need, and would be in compliance with the current FAA Waiver. Under the current Waiver, any fence alignment must be at least 63 feet beyond the edge of the FAR Part 77 Primary Surface to accommodate the 7 to 1 Transitional Surfaces that extend upward and out as an obstruction clear area. However, if this Waiver were ever to be revoked in the future, Concept 2 would have to be removed and relocated. Therefore this alternative has been deemed unfeasible for cost and environmental permitting reasons, and has been dismissed from further review.

Concept 3: Apron Offset North; 1,000 Foot Offset Primary Surface South:
This alignment would have an approximately 500-foot offset from the runway centerline on the south and approximately 10 feet off the back of the aircraft aprons on the north

side. It would enclose the ILS with a 10-foot wide area on the outside of the fence maintained to be clear of trees and shrubs, and a 10-foot wide vehicle travel path on the Airport side of the fence for security inspection patrols. This alignment would be cost effective because it would be in compliance if, in the future, the Waiver is revoked. The length of the fence would be approximately 17,900 LF, enclosing approximately 128 acres. The alignment would impact approximately 4.5 acres of wetlands and prime breeding habitat for the Eastern Spadefoot Toad and coastal dunes and Eastern Box Turtle habitat, which would likely have adverse impacts to these rare species. As with Concept 2, Concept 3 has the potential to impact tidal flow and flood storage capacity since the fence is in the vicinity of the ILS. Maintaining the fence alignment in close proximity to the taxiway would reduce direct, long-term wetland and dune impacts by eliminating the need for a portion of the perimeter roadway. Concept 3 would meet the project purpose and need, however, this alternative has been deemed unfeasible for environmental permitting reasons, and has been dismissed from further review.

Concept 5: Apron Offset North; Wetland Offset South: Concept 5 would enclose the ILS with a four-foot wide area on the outside of the fence maintained to be clear of trees and shrubs, and a 10-foot wide vehicle travel path, which would be maintained on the Airport side of the fence for security inspection patrols, except where the fence can be inspected from the GA aprons on the north. The Concept 5 alternative generally follows the same alignment on the southern side as Concept 4. On the northern side, however, the fence would be located on a minimum 10-foot offset behind the aircraft parking aprons. The length of the fence would be approximately 14,000 LF, enclosing approximately 148 acres. Concept 5 would impact approximately 1.5 acres (direct and indirect) of wetlands and, as with Concepts 2 and 3, would have the potential to impact tidal flow and flood storage capacity since the fence would be in the vicinity of the ILS. While located within wetland areas, the close proximity of the fence to the taxiway would eliminate the need for a perimeter roadway along this stretch of the fence (e.g., as with the northern segments considered in Concepts 2 and 3). It is anticipated that this alignment would only require vegetation management along the fence, minimizing wetland alterations. In addition, portions of these wetlands are currently subject to vegetation management practices to maintain airfield safety. Similar to Concept 4, Concept 5 is also located at the base of the dune ridge to the south of the runway. Certain segments of the fence would require a vehicle path would approximately 10 feet wide. In other areas where the fence traverses through currently managed airfield areas, the width of vegetation clearing would be reduced to four feet on only one side of the fence where patrol roads are not necessary, so as to minimize impacts.

This alignment provides suitable clearance along the north side of the GA aprons to accommodate spatial considerations for aircraft that are pushed by hand onto the turf aprons, access to the electric controls on the back of the GA apron light poles, and meets the purpose and need and fully complies with FAA design standards.

This proposed alignment, while reducing overall wetland impacts, would still result in habitat fragmentation on the south side of the Airport, separating the large aggregate of wetland areas from the adjacent upland areas of coastal dune. Taking the results of

Eastern Spadefoot Toad habitat surveys into consideration, the placement of the fence along the toe of the dune ridge would potentially interfere with breeding activity for this species. Thus, it was determined that Concept 5 was not the preferred alternative with respect to the natural resources at the Airport, for it requires the construction of patrol roads along certain lengths of the fence (except for north of the taxiway) for monitoring, and encloses a portion of the tidally-influenced wetlands within Hatches Harbor. As such, this alternative has been dismissed from further review.

5.10 Auto Parking Expansion

Three alternatives have been analyzed for the Auto Parking Expansion: The No Action alternative, an alternative that would construct additional parking in two phases Concept 4 (Preferred Alternative), and an alternative that would construct additional parking in one phase (Concept 1 Preferred Alternative in Draft EIR/EA). Three additional alternatives have been considered but dismissed from further review. The alternatives that have been considered for the project are illustrated on Figures 3.10 through 3.13 provided at the end of this section.

5.10.1 No Action

The No Action alternative would retain the existing parking area. Existing and future needs would not be met because parking would continue to be congested at peak periods, and visitors would continue to park along Airport Drive occasionally during peak periods, creating a potential safety hazard. The No Action would not impact natural resources because there would be no additional parking area constructed within coastal dune resources.

5.10.2 Auto Parking Concept 4, Phases 1 and 2 (Proposed Action and Preferred Alternative)

The parking lot currently has 62 spaces. Concept 4 would construct 28 additional spaces for Phase 1 (Phase 1 total 90 spaces). Phase 2 would construct additional parking spaces (estimated at an additional 29 spaces for a total of 119) after additional parking studies have been carried out and the studies have been reviewed and approved by NPS and CCC. Expanding the parking lot in phases would address the existing and mid term planning period need for additional parking.

The Preferred Alternative would result in an initial impact of 7,315 SF of coastal dune with the potential for approximately 5,707 SF of additional dune alteration for Phase 2. Dune alterations would be mitigated as discussed in Section 7. The parking aisles would be paved and parking spaces would consist of packed gravel. Infiltration swales would be constructed for Phase 1. A bioretention system would be constructed for Phase 2 which would provide treatment of runoff in accordance with current WPA regulations. Landscaping designed to screen views of the parking would use native plants similar to those listed in the NPS Site and Building Design and Rehabilitation Handbook, September 2005 developed for the Highlands Center at CCNS.

As an adjunct element to Phase 1, efforts to reduce demand by improving awareness of the shuttle system, encouraging the use of taxis, and working with NPS to explore the use of remote lots for long-term parking may possibly reduce or delay the need to implement Phase 2. The phases would be permitted separately with the Provincetown Conservation Commission so that each phase can be evaluated independently but with an understanding of the entire project.

5.10.3 Auto Parking Concept 1

Concept 1 would construct the proposed parking lot expansion in one phase by constructing 57 additional spaces and a third aisle with parking on both sides directly adjacent and parallel to the existing two aisles, providing a total of 119 spaces. This number of spaces would meet most of the existing and projected demand. The aisle would be paved and the parking spaces would be packed gravel. Alterations to coastal dune (10,000 SF) and isolated wetlands (4,650 SF of Wetland A) would occur under Concept 1.

5.10.4 Alternatives Considered But Rejected

Auto Parking Concept 2

Concept 2 would provide a total of 161 spaces by constructing two additional aisles parallel to the existing two aisles. This configuration would impact approximately 10,950 SF of isolated wetland within Wetland A, as well as more than 10,000 SF of coastal dune and associated habitat. The aisles would be paved and the parking spaces would be packed gravel. This alternative has been dismissed from further review because this number of spaces would exceed the existing and projected demand.

Auto Parking Concept 3

Concept 3 would provide a total of 116 spaces parallel to the entrance drive, and would meet most of the existing and projected demand. This configuration would impact approximately 1,125 SF of isolated wetland within Wetland A and coastal dune habitat. The aisles would be paved and the parking spaces would be packed gravel. This option puts some of the parking spaces at a long distance from the entrance to the Terminal and would be more visible from Race Point Road. The vehicle circulation is also awkward. This alternative has been dismissed from further review.

5.11 Terminal Building

Three alternatives for the Terminal Building expansion project element were explored, including the No Action alternative, an alternative that would construct a second floor within the existing footprint (Vertical Concept), and an alternative that would expand the 1st floor footprint (Horizontal Concept). All three alternatives are carried forward in the assessment of environmental impacts in Section 5.0. The alternatives that have been considered for the project are illustrated on Figures 3.14, 3.15, and 3.16 provided at the end of this section.

5.11.1 No Action

The No Action would maintain the current conditions in the passenger terminal building. Figure 1.4 in Section 1 depicts the floor plan of the existing terminal building along with photos. The space requirements for TSA operations were not in existence when the current terminal building was designed and built. The 1,660 SF taken over by TSA would not be replaced and the inefficient and cramped conditions for passengers and Airport staff would continue. Currently, passengers do not have enough space in the public, non-secure waiting area, and general aviation pilots do not have space for flight planning, while the conference room and various office spaces are congested and used for storage that was lost due to TSA occupation, which would continue. No impacts to the environment would occur because there would be no construction or change in the appearance or size of the building.

5.11.2 Vertical Concept (within existing footprint) - (Proposed Action and Preferred Alternative)

The Vertical Concept alternative would place a second floor above the existing building and reconfigure space in the existing first floor terminal. The Vertical Concept would satisfy the need to obtain the lost space to TSA, as well as the projected 0.7% annual increase in passengers over the planning period. This concept would provide the additional terminal space needed to operate the Airport in a safe and efficient manner. This concept would provide the additional 1,660 SF of lost TSA space plus approximately 1,000 to 2,200 SF of projected demand over the 20-year period.

The Vertical Concept would have no direct impacts to natural resources and potential impacts to the visual environment would be mitigated with landscape screening as well as with design elements. Minimizing the mass and height of the building is a priority of the CCNS. In order to accommodate a second floor, the increased height of the proposed building would be as minimal as possible, while maintaining an aesthetically pleasing architecture for NPS guests. It would likely be necessary to raise the height of the building to accommodate the second floor. The Vertical Concept terminal building would be approximately 6 to 12 feet higher than the existing 20'93/4" building, resulting in a 26'93/4" to 32'93/4" building height. A maximum height would be identified during meetings between the Airport, the architect, and CCNS staff. The Airport architects will work closely with CCNS staff to ensure a collaborative effort goes into designing the terminal building expansion. CCNS staff will be a member of the terminal design client group from the scoping of the project to final design.

The Vertical Concept alternative would provide the spatial needs to satisfy the purpose and need, while satisfying CCNS request for input from pre-design to ensure minimal visual impacts to Park resources. Therefore, the Vertical Concept is the Preferred Alternative.

5.11.3 Horizontal Concept (expand footprint)

The Horizontal Concept alternative would expand the building to the southwest adjacent to the existing passenger waiting area. The building height of the addition would match the height of the existing terminal building. The alternative would also include modifications to the interior of the existing terminal building.

The Horizontal Concept alternative expansion would provide an additional 900 to 1,200 SF of non-secured area, less than the needed 1,600 SF lost to TSA secure operations, and would not satisfy the purpose and need. Horizontal expansion would result in alterations to Wetland C (560 SF). Any further expansion to the west would affect the location of the underground fuel tank. Expansion to the north would impact the existing passenger drop-off area and/or the existing parking lot. This would impact the proposed expansion of the parking area.

Additionally, the Horizontal Concept would require that the TSA trailer be relocated. After further evaluation since the NPC/DEIR/EA, it has been determined that the TSA trailer could not be located adjacent to the fuel farm due to Occupational Health and Safety Administration (OSHA) requirements. The location for the TSA trailer would likely need to be in the passenger parking lot or adjacent to the GA apron, again having an adverse impact on parking by occupying a minimum of six parking spaces. The auto parking area circulation road would need to be realigned, resulting in the loss of several additional auto parking spaces.

The Horizontal Concept would also have additional potential impacts on the visual environment, as the relocated TSA trailer would be visible from the existing CCNS bike path. In addition, TSA operations would also be located outside the secure area, which is unacceptable to TSA.

5.11.4 Alternatives Considered But Rejected

No other alternatives were identified.

5.12 Turf Apron Expansion

The potential impacts of constructing additional turf apron to accommodate GA aircraft were analyzed with three alternatives: the No Action alternative, an alternative that would construct additional apron space for a full range of GA aircraft (Full Dimension alternative), and an alternative that would accommodate smaller GA aircraft (Reduced Dimension). The alternatives that have been considered for the project are illustrated on Figures 3.17 and 3.18 provided at the end of this section.

5.12.1 No Action

The No Action would maintain the current area for turf parking of GA aircraft. There would be no impacts to natural resources because the turf area would not be reconstructed and reinforced. The need for additional parking area would not be met and it would continue to be necessary to close the Mid Connector taxiway to provide overflow aircraft parking areas during peak demand, and would not meet the purpose and need.

5.12.2 Expand Apron, Full Dimension

The Full Dimension alternative would construct the turf apron outside of the Taxiway Free Area (TOFA) in compliance with FAA safety design standards, and would accommodate the full range of GA aircraft that use the turf apron at the Airport. The width of the apron would accommodate the larger GA planes. Implementation of this alternative would result in impacts to Wetland C (1,250 SF). There would be temporary impacts to cultural grassland habitat (approximately 16,800 SF) during construction, which would be restored to grasslands.

5.12.3 Expand Apron, Reduced Dimension (Proposed Action and Preferred Alternative)
Under the Reduced Dimension alternative, additional turf apron would be constructed between the two existing areas for turf apron parking by increasing the carrying capacity of the existing grass area to support the weight of the planes. Approximately 16,780 SF of existing managed cultural grassland habitat would be temporarily impacted during construction, and would be restored to managed grassland habitat.

5.12.5 Alternatives Considered But Rejected
No other alternatives were identified.

6. Impacts On 4(f) Resource from Preferred Alternative

6.1 Physical Use

A physical use occurs when a project would require the physical taking of lands being used for park or other Section 4(f) purposes.

When the airport was originally established, the land was owned by the Commonwealth of Massachusetts and leased by the Town for a municipal airport. Since the establishment of the Cape Cod National Seashore in 1961, the land on which the Airport is located has been under the ownership of the National Park Service. As part of the land acquisition for the National Seashore, the Commonwealth of Massachusetts authorized the Deed of Conveyance for the Province Lands in 1962. The deed restriction in the conveyance title recognizes the pre-existing lease agreement between the Commonwealth of Massachusetts and the Town of Provincetown for the Airport facilities and access roads.

All CIP project elements are located within the Airport's lease area. The Special Use Permit issued by NPS authorizes Provincetown to use federal lands for airport operations and guidance equipment. The project improvements do not require any land outside the lease area.

Therefore, there would be no physical use of the 4(f) property.

6.2 Constructive Use

A constructive use does not physically use the Section 4(f) resource, but rather affects the resources indirectly. A constructive use occurs when transportation projects do not incorporate land from a Section 4(f) property but due to proximity impacts are so severe that the protected activities, features, or attributes that qualify a resource for protection under Section 4(f) are substantially impaired. Substantial impairment occurs when the activities, features, or attributes of the resource that contribute to the resource's significance or enjoyment are substantially diminished. Potential causes of constructive use include intrusions such as noise, air pollution, effects on cultural resources, or other effects such as visual impacts that would substantially impair the use of the resource.

There are no noise or air quality impacts associated with the project. No changes in flight paths, altitudes, or number of flights would result from the proposed project. In addition, coordination has been carried out with the Massachusetts Historical Commission (MHC) regarding the historical significance of the Sightseeing Shack and other significant historic or archaeological resources within the Airport lease area. MHC has determined that the CIP project is unlikely to affect significant historic or archaeological resources. The CCNS park archaeologist has also determined that no archaeological testing is necessary for the projects.

Each project element is discussed in terms of its potential for constructive use with respect to visual aspects of CCNS. Visual effects associated with the proposed terminal expansion, safety/security fence, and auto parking projects have been identified as a potential constructive use. Although these proposed projects would be within the lease area for the Airport, these project elements could be seen from outside the permit area designated for airport use. Measures to minimize and mitigate for impacts are discussed.

6.2.1 Westerly Taxiway System Improvements

The project would relocate the existing West End Connector taxiway approximately 300 feet to the east, straighten the existing curved Mid Connector Taxiway and realign the west end of the existing parallel Taxiway. The project would not be a new element or an expansion of an existing element at the Airport. There would be no discernable change in the visual environment for the visitors to the CCNS from any viewpoint. There would be no change in the character or visual qualities of the CCNS since the project is a minor modification of the existing airfield. There would be no change in recreational activity for visitors since the project is within an existing restricted area.

Therefore there would be no constructive use of a Section 4(f) resource. Additionally, impacts to natural resources have been minimized and on-site and off-site mitigation is proposed for the unavoidable impacts to wetlands, grasslands, and coastal dunes.

6.2.2 Relocate East End Taxiway

The project would relocate the existing East End taxiway approximately 200 feet to the east to meet the end of the existing runway. The project would not be a new element or an expansion of an existing element at the Airport. There would be no discernable change in the visual environment for the visitors to the CCNS from any viewpoint. There would be no change in the character or visual qualities of this area of the CCNS since the project is a modification within the existing airfield. There would be no change in recreational activity for visitors since the project is within an existing restricted area.

Therefore there would be no constructive use of a Section 4(f) resource. Additionally, impacts to natural resources have been minimized and mitigation is proposed for the unavoidable impacts to wetlands, grasslands, and coastal dunes.

6.2.3 Reconstruct Terminal Apron

The project would reconstruct pavement within the same footprint of the existing terminal apron. This is footprint re-pavement project.

6.2.4 Reconstruct Easterly End of Partial Parallel Taxiway

The project would reconstruct pavement within the same footprint of the easterly end of the parallel taxiway. This is footprint re-pavement project.

6.2.5 Install Taxiway Lighting, Signage, and Construct Electric Vault

The project would construct an electric vault and add taxiway lights. The lights would function in a similar manner to the runway lights, which are activated by pilots during runway use. The lights are not on at all times. There would be no discernable change in the visual environment for the visitors to the CCNS from any viewpoint since the existing runway is lighted and the existing taxiway has reflectors.

There would be no change in the character or visual qualities of the CCNS in the vicinity of the airport environs and therefore there would be no constructive use of a Section 4(f) resource.

6.2.6 Repair Sightseeing Shack

The project would repair the existing building. The project would maintain the existing footprint and scale of the building. It would not be a new element in the visual environment. The building is not considered historic as discussed in previously.

There would not be a constructive use because the visual appearance of the building will remain essentially the same as existing.

6.2.7 Improve Access Road to Approach Lights

The project is a modification to an existing access road and would not be a new element in the visual environment. There is an existing road to the existing navigational system and there would be no discernable change in the visual environment for the visitors to the CCNS from any public viewpoint since the modification is within an area of aviation navigational equipment. Impacts to natural resources have been minimized and mitigation is proposed for the unavoidable impacts to wetlands.

Therefore there would be no constructive use of a Section 4(f) resource.

6.2.8 Construct Service Access Roads to AWOS and LES

The project would provide service roads to existing facilities and would not be a significant new element in the visual environment. The roads would be within the active airfield. The existing facilities are currently maintained and this activity would not be unexpected to the visitors of CCNS or users of the nearby section of the bike path. Impacts to natural resources have been minimized and mitigation is proposed for the unavoidable impacts to wetlands, and coastal dunes. There would be no discernible change in the visual environment and no change in recreational activity for the visitors to the CCNS.

Therefore there would be no constructive use of a Section 4(f) resource.

6.2.9 Install Perimeter Fence

There are existing segments of safety/security fencing at the Airport and one section is adjacent to the bike path. The new sections of fencing will be within the vicinity of the managed airfield, which minimizes the effect on the various viewer groups and will be within the existing area designated for aviation use. The fence will be black-coated vinyl, which will match existing sections of fence. Safety/Security fencing is consistent with airport facilities and would not be an unusual sight in the airport environs, especially since fencing is currently adjacent to the bike path and visible from the path. The fence will secure the operational area of the Airport and minimize unauthorized entry onto the active airfield. Impacts to natural resources have been minimized and mitigation is proposed for the unavoidable impacts to wetlands, and coastal dunes. Design of the fence has incorporated wildlife openings for turtles and other small animals. There would be no change in recreational activity for the visitors to the CCNS.

Therefore, it is expected that the fence will not impair the use of the CCNS for visitors and would not be a constructive use.

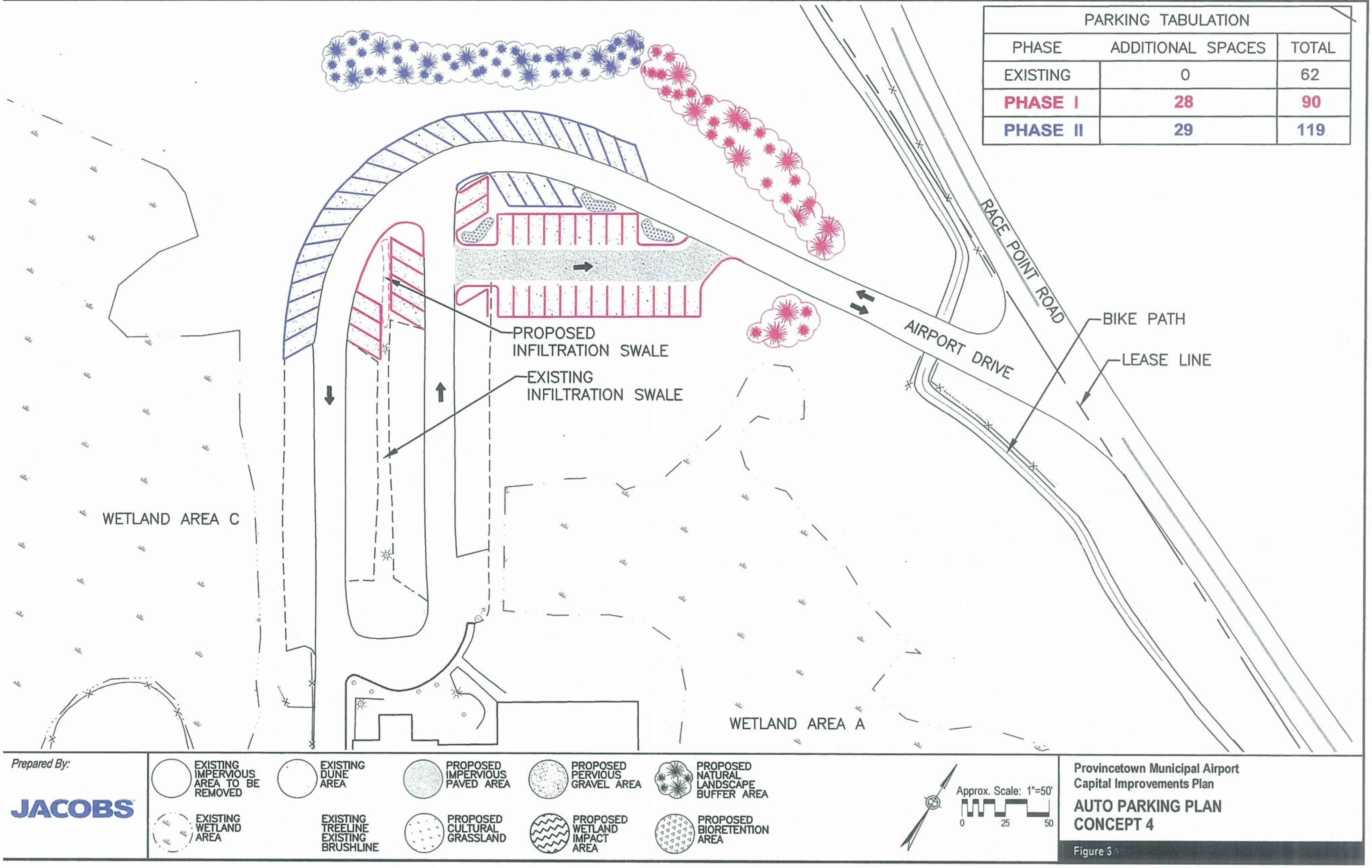
6.2.10 Expand Auto Parking

The project would expand an existing parking area at the Airport adjacent to Race Point Road in two phases. There are two NPS parking areas also within the general area: the Visitors Center parking lot and the Race Point Beach parking lot. A portion of the CCNS bike path parallels Race Point Road and crosses Airport Drive. The new area of parking will be adjacent to the existing parking area and Airport Drive. Landscaping is proposed to screen the additional parking from Race Point Road. A concept plan is shown on **Figure 3, Auto Parking Plan.**

Therefore, it is expected that the parking area, with the proposed landscaping mitigation, will result in a minor change in the visual environment but would not impair the use of the CCNS for visitors. The aspects that contribute to the significance of CCNS would not be diminished because there would be no significant change in the visual environment and no change in recreational activity for the visitors to the CCNS. Use of the ORV trail and the bike path will not be impaired.

6.2.11 Expand Terminal Building

The preferred Alternative to expand the existing terminal building would add a second floor, raising the building height approximately 6 to 12 feet. The existing building is visible from the Visitor Center's observation deck, the Race Point Beach parking lot, and portions of the bike path. The proposed increase in height would be discernible from these perspectives, but would not be a significant change in the visual environment.


WETLAND AREA C
WETLAND AREA A
PROPOSED INFILTRATION SWALE
EXISTING INFILTRATION SWALE
AIRPORT DRIVE
RACE POINT ROAD
BIKE PATH
LEASE LINE
Approx. Scale: 1"=50'
0
25
50
EXISTING IMPERVIOUS AREA TO BE REMOVED
EXISTING DUNE AREA
PROPOSED IMPERVIOUS PAVED AREA
PROPOSED PERVIOUS GRAVEL AREA
PROPOSED NATURAL LANDSCAPE BUFFER AREA
EXISTING WETLAND AREA
EXISTING TREELINE EXISTING BRUSHLINE
PROPOSED CULTURAL GRASSLAND
PROPOSED WETLAND IMPACT AREA
PROPOSED BIORETENTION AREA

PARKING TABULATION

PHASE	ADDITIONAL SPACES	TOTAL
EXISTING	0	62
PHASE I	**28**	**90**
PHASE II	**29**	**119**

Prepared By:

JACOBS

Provincetown Municipal Airport
Capital Improvements Plan

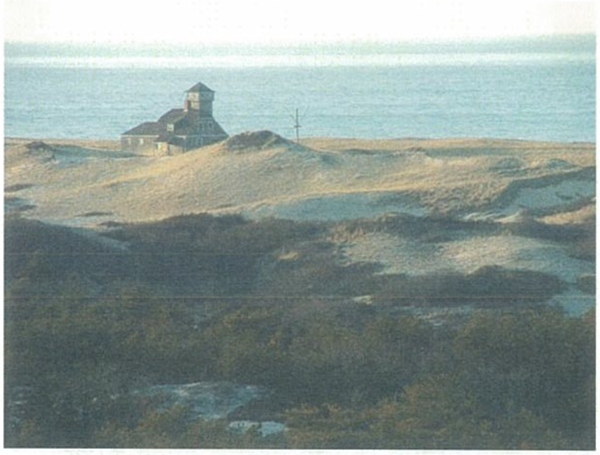
AUTO PARKING PLAN
CONCEPT 4

Figure 3

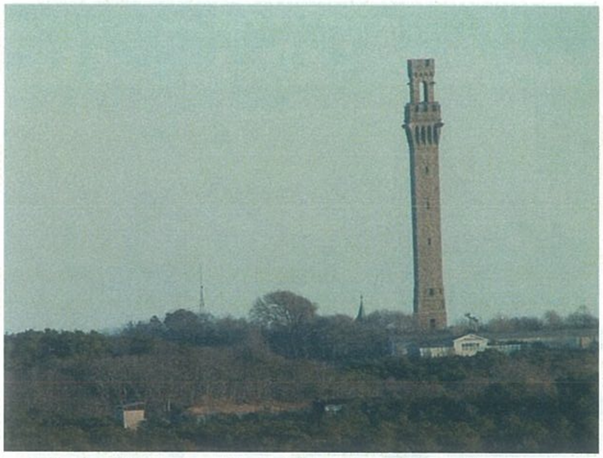
The existing viewscape from the NPS Visitors Center Observation Deck consists of many multiple story buildings such as the Race Point Ranger Station, the old Harbor Life-Saving Station Museum, the Pilgrim Monument, and the Race Point Lighthouse. The existing viewscape from the bike path in the vicinity of the Airport includes the Airport Drive and Race Point Road, as well as the NPS beach parking lot and portions of the Airport. The existing viewscape from the Race Pont Beach parking lot includes the existing airport terminal and hangar buildings, as well as the existing parking lot at the Airport.

The Race Point Ranger Station, the old Harbor Life-Saving Station Museum, the Pilgrim Monument and Provincetown Museum, and the Airport Terminal, Hangar, and Transportation Security Administration (TSA) trailer are shown from the NPS Visitors Center (telescopic views) in the following viewshed photo compilation.

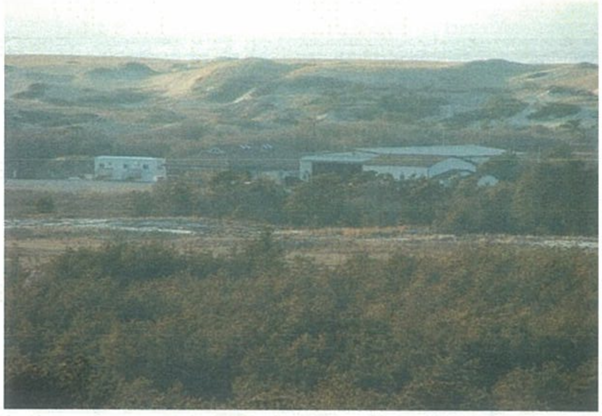
Race Point Ranger Station



Old Harbor Life-Saving Station Museum



Pilgrim Monument and Provincetown Museum

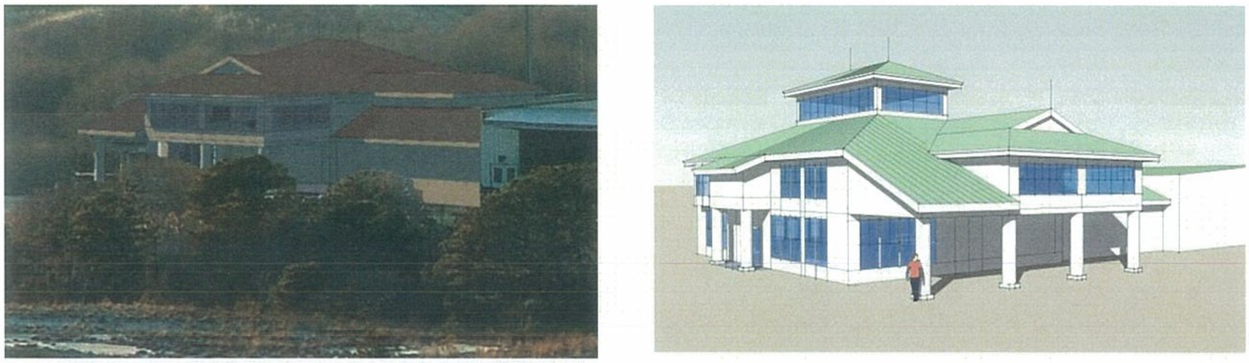


Airport Terminal, Hangar, and TSA Trailer

Telescopic views of area buildings from NPS Visitors Center.

The potential for visual impact from the project relates to the mass, height, volume, and scale of the building. There are several measures that have been evaluated at a conceptual level to minimize this impact. The appearance of building height and mass could be minimized by use of building insets or projections, stepping back the upper floor, varying the height of the roofline, and adding trees and other vegetation. A combination of roof lines with varying roof heights and pitches could be used to add interest to the building and break up the mass of the building. Windows and other architectural features can be used to break up large wall masses. Roof color can also minimize the visual impact.

Preliminary conceptual building design concepts and photo simulations have been developed at this time for environmental review. Sample buildings with varying roof heights and building insets and projections are shown. Conceptual building design concepts have been developed to illustrate general issues. Existing and simulated views are provided in the following photos.



Example of building with varying roof line looking from the southeast (a telescopic view from the NPS Visitor Center)

Example of terminal with building insets and projections looking from the Northwest

Examples of varying roof designs and building insets and projections

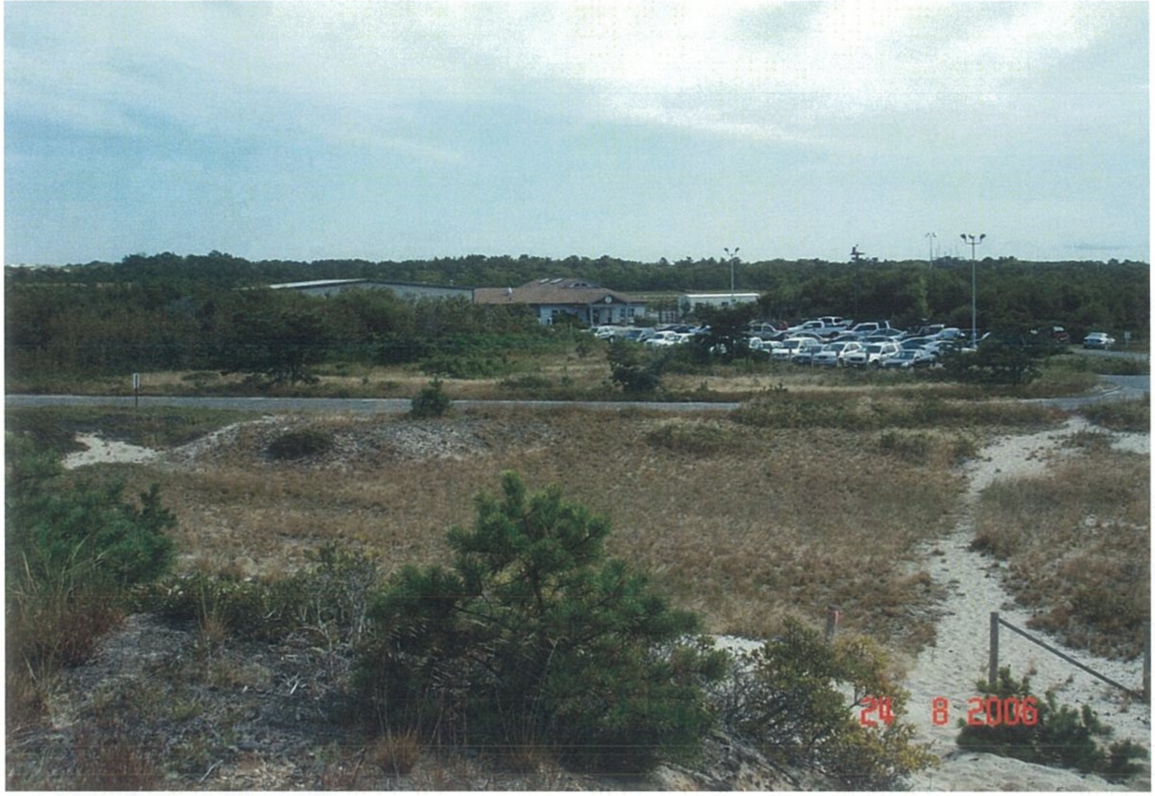
Two examples of the same style building with different roof colors have been illustrated to note the impact that color could make on the perception of visibility. During the design process, background colors will be refined to aid in visual comparisons.

Example of a building with a green roof

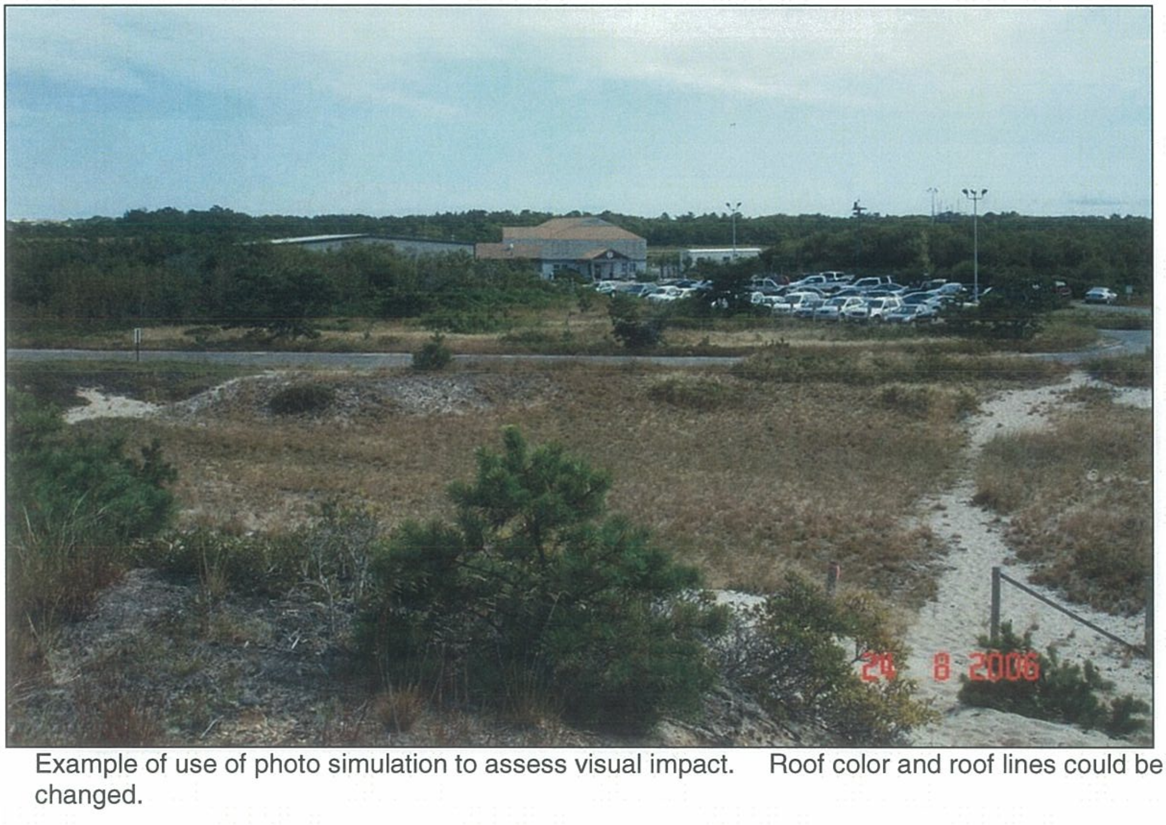
Example of a building with a brown roof

Existing view from beach parking lot.

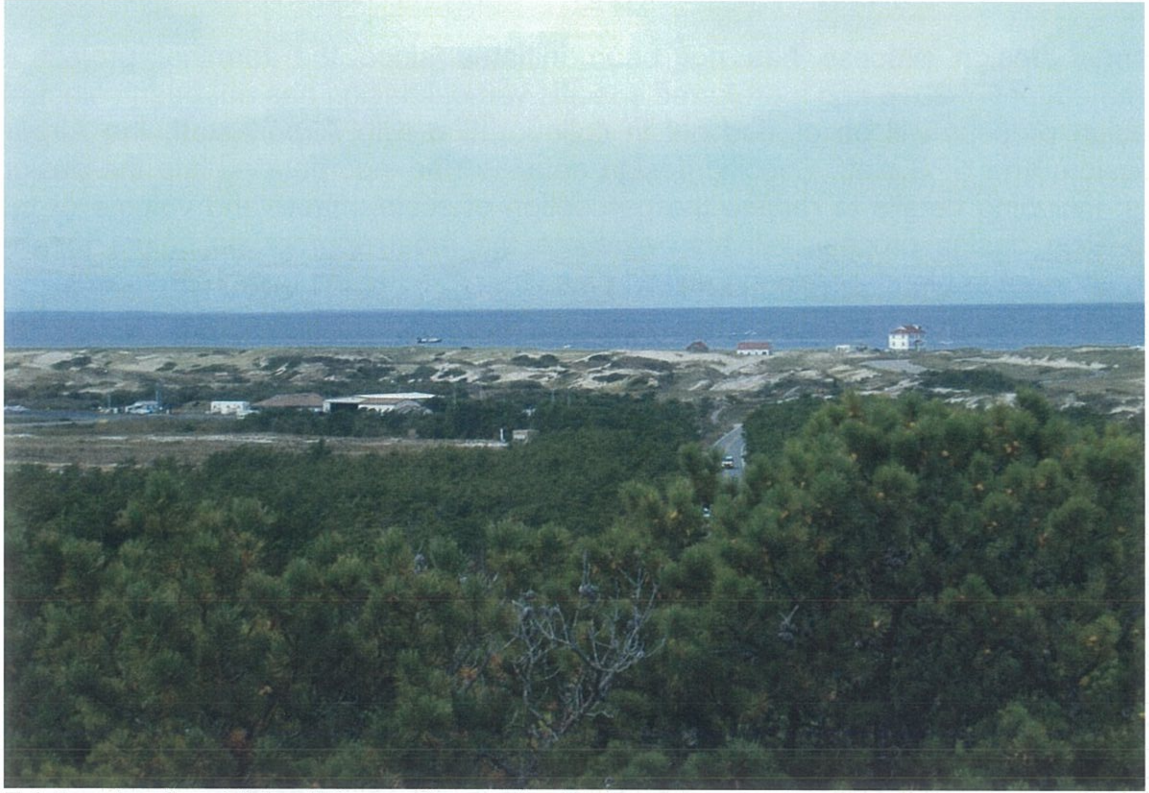
An example of how photo simulation can be used to show the visual impact of a design.



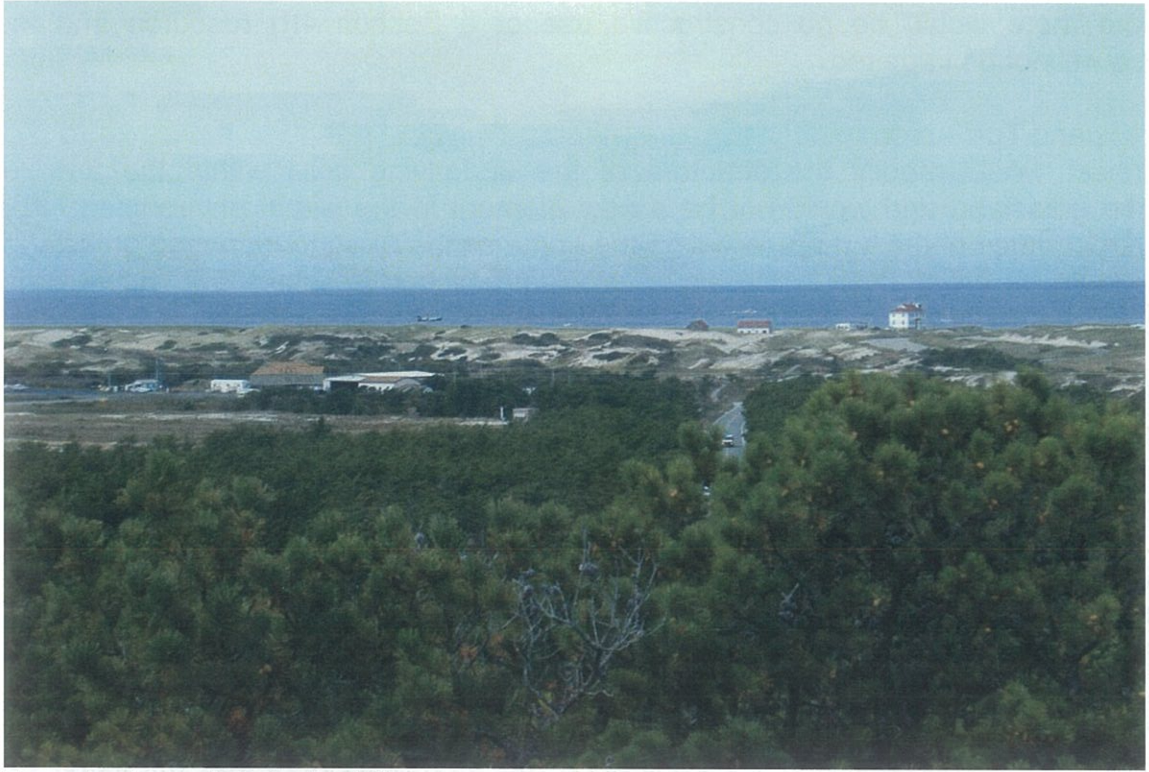
Existing view from bike path.



Example of use of photo simulation to assess visual impact. Roof color and roof lines could be changed.



Existing view from Visitors' Center Observation Deck.



Example of use of photo simulation.

The formal design process has not been initiated since the terminal project is programmed for FY 2016 and a preferred specific vertical design has not been selected. The design process will be carried out in collaboration with Airport staff, the Airport Commission, and NPS staff. Specific design detail will be incorporated into the design process, including details to reduce the perception of scale, mass, and volume of the building. The design process will also evaluate the most appropriate colors for the building and roof to blend in with the existing landscape. All of the design phases will be reviewed and approved by NPS.

Landscaping specific to the terminal will be incorporated into the landscaping plan for the parking lot. Landscaping for the parking lot has been proposed that will buffer the visual plane to the terminal building and parking lot from both the bike path and the Race Point Beach parking lot. Native trees and shrubs will be used.

By using the design principles to reduce the scale, volume, and mass perception, and by proposing vegetated buffers between the building and visual points of interest, the vertical terminal option would have a minor long-term impact on the visual environment. The aspects that contribute to the significance of CCNS would not be diminished by adding a second floor to the terminal building because this would not be a significantly different element within the existing visual environment that includes buildings. There would be no change in recreational activity for the visitors to the CCNS.

Therefore there would be no constructive use of a Section 4(f) resource and the resource will not be impaired.

6.2.12 Expand Turf Apron

The project would modify the structure of the underlying soils within the area of managed grassland and would not be a new element in the visual environment. The visual appearance of the turf apron will be the same as the existing managed grassland. There would be no change in the visual environment and no change in recreational activity for the visitors to the CCNS.

Therefore there would be no constructive use of the resource.

7. Measures to Minimize Harm

7.1 Visual Mitigation Measures

The Airport Commission is committed to work with the CCNS staff to finalize design parameters for the design of the Terminal project. CCNS staff will be included in all design meetings and will review the building design plans from concept to final design.

Landscaping specific to the terminal will be incorporated into the landscaping plan for the parking lot. Landscaping for the parking lot has been proposed that will buffer the visual plane to the terminal building and parking lot from both the bike path and the

Race Point Beach parking lot. Native trees and shrubs will be used. Coordination will be carried out during the permitting and final design process so that CCNS staff will have an opportunity to comment on the specific plants in the landscape plan.

7.2 Natural Resources Mitigation

On-site wetland, coastal dune and cultural grassland restoration, as well as additional wetland enhancement mitigation measures are proposed. Additional measures to reduce harm are an invasive species management plan and a construction management plan. The invasive species plan will target common reed, spotted knapweed, and purple loosestrife. The construction management plan will include such things as construction timing, construction phase protections for rare species, and an environmental monitor for environmental compliance oversight

In summary, the proposed CIP projects will not have a constructive use because, with the proposed mitigation for visual impacts, the projects would not substantially impair the resource as discussed above.

Finding

> Based on the Section 4(f) evaluation, I have determined there is no prudent and feasible alternative that would avoid a physical use of the lands permitted for aviation use within the Cape Cod National Seashore (CCNS), a Section 4(f) protected resource. The project includes all possible planning to minimize harm to this resource. FAA will condition its approval of this project to fulfill its Section 4(f) responsibilities."

______________________________ ____________________

Approved Date

9.5 Statement of Findings, E.O. 11990 Protection of Wetlands

STATEMENT OF FINDINGS FOR EXECUTIVE ORDER 11990
(Wetland Protection)

National Park Service – Cape Cod National Seashore

Pursuant To

Provincetown Municipal Airport
Capital Improvement Program Projects
Provincetown, Massachusetts

Recommended:

____
George E. Price, Jr., Superintendent

Certification of Technical Adequacy and Servicewide Consistency:

____
_____, Chief, Water Resources Division

Approved:

____
______, Regional Director

National Park Service - Cape Cod National Seashore
STATEMENT OF FINDINGS
Pursuant To
Wetland Protection – E.O. 11990, D.O. 77-1
Provincetown Municipal Airport

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NATIONAL PARK SERVICE - CAPE COD NATIONAL SEASHORE
STATEMENT OF FINDINGS

Pursuant to
Wetlands Protection – E.O. 11990, D.O. 77-1
Provincetown Municipal Airport
Provincetown, Massachusetts

1.0 INTRODUCTION

The Provincetown Municipal Airport Commission and Federal Aviation Administration (FAA) have prepared an Environmental Assessment (EA) for the proposed Capital Improvement Program (CIP) of safety and facility improvements at the Provincetown Municipal Airport (PVC). This EA will also be used by the National Park Service (NPS) to satisfy their National Environmental Policy Act (NEPA) requirements. Executive Order 11990 (E.O. #11990): Protection of Wetlands requires the NPS and other federal agencies to evaluate the likely impacts of action in wetlands. The objectives of E.O. #11990 are to avoid, to the extent possible, the long-term and short-term adverse impacts associated with the occupancy, modification, or destruction of wetlands. NPS Director's Order #77-1: Wetland Protection and Procedural Manual #77-1 provide NPS policies and procedures for complying with E.O. #11990. This Statement of Findings (SOF) documents compliance status with these NPS wetland protection procedures, presents the rationale for undertaking projects with potential adverse impacts to wetlands, and documents the anticipated effects.

1.1 Background

The Airport is a primary service airport with scheduled passenger service to Logan International in Boston, Massachusetts. Located in Provincetown, Massachusetts, on the northern tip of Cape Cod, the Airport is within the Cape Cod National Seashore (CCNS) sited on approximately 322 acres of federally owned land administered by NPS (Figures 1 and 2). Constructed in the 1940s, the Airport consists of developed airside and landside areas maintained for airport facilities and operations, surrounded by undeveloped areas that consist of grasslands, coastal dunes, and freshwater wetlands.

Airside facilities include a single runway, a taxiway system, aircraft parking aprons, an approach lighting system, navigational aids, and weather instrumentation. The runway was first paved in 1948, and was most recently reconstructed in 2003, which included the construction of runway safety areas. The taxiway system provides aircraft with direct routes between the terminal areas and the runway. The taxiways at the Airport include a partial parallel taxiway and three entrance taxiways. The West End and Mid Connector taxiways are jug-handle shaped to accommodate the larger DC-3 aircraft in operation at the time of the runway construction. The aircraft parking aprons at the Airport include both paved and turf aprons. There are two paved parking aprons, one of which is adjacent to the terminal area and is used to support commercial service at the Airport. The other paved apron is used by general aviation aircraft. The two turf aprons are located to the west of the paved General Aviation apron.

Landside facilities at the Airport include a terminal building, an aircraft hangar, an aircraft rescue and firefighting/snow removal equipment garage (ARFF/SRE), ground support facilities, the sightseeing shack (former administrative building), and an auto parking area. The terminal building was reconstructed in 1998 and is a single story wooden structure that is approximately 4,800 square feet. Passenger facilities, Transportation Security Administration (TSA) screening areas, and a conference room are all located within the terminal building. Passenger facilities include vending machines, restrooms, ticketing counters, passenger queuing space and circulation and waiting areas. The single hangar at the Airport is owned by the Town of Provincetown and operated by Cape Air. The fuel farm is also owned by the Town and is leased by Cape Air. It is located to the west of the terminal building and northeast of the sightseeing shack. The ARFF/SRE garage is located on the east end of the terminal ramp next to the employee parking lot and is owned by the Town.

The Airport has an auto parking lot that provides free parking for passengers and visitors as well as a separate lot for employee vehicles. There are a total of 62 parking spaces available in the passenger/visitor lot and 20 spaces available in the employee parking area.

A segment of security fencing is located at the east end of the runway, around the terminal apron, and around the fueling station. Figures 3 and 4 illustrate the locations of all landside and airside facilities at the Airport.

2.0 PROPOSED ACTION

The Airport proposes the implementation of twelve projects as a part of the CIP. The purpose of these projects is to enhance Airport safety and security and to enhance the efficiency of the Airport to more fully meet current and anticipated needs. Ten of the twelve proposed projects will provide operational safety and security improvements which will bring the Airport into compliance with current FAA, Massachusetts Department of Transportation Aeronautics Division (MassDOT), and TSA safety and security design standards for an airport of this type. Figure 5 provides an overview of all proposed CIP projects and their location relative to existing facilities and resource areas at the Airport.

The proposed CIP projects are:

1. Westerly Taxiway System Improvements (Realign West End, Mid Connector and a portion of the parallel Taxiways);
2. Relocate East End Taxiway;
3. Reconstruct Terminal Apron;
4. Reconstruct Easterly End of Partial Parallel Taxiway;
5. Install Taxiway Lighting and Construct Electric Vault;
6. Repair Sightseeing Shack;
7. Improve Access Road to Approach Light System;
8. Construct Service Access Roads to Localizer Equipment Shelter (LES) and to the Automated Weather Observation Station (AWOS);
9. Install a Perimeter Safety/Security Fence;

10. Expand Auto Parking;
11. Expand Terminal Building; and
12. Expand Turf Apron.

2.1 Airport Safety and Security Projects

The purpose of nine of the twelve proposed CIP projects (i.e., CIP projects 1 through 9 as listed above) is to provide necessary operational safety and security upgrades at the Airport to comply with current FAA, TSA, and MassDOT regulations and standards. A brief description of these CIP projects, the preferred alternative for each project, and how they relate to airport safety and security standards is provided below.

Westerly Taxiway System Improvements

The current configuration of the Westerly Taxiway System does not meet current FAA flight operation safety standards. The existing jug-handle shaped taxiway was constructed to accommodate DC-3 aircraft, which are no longer in operation. Current FAA design standards call for an L-shaped intersection with a right angle to the runway for operational safety. The west end taxiway currently intersects parallel to the runway, rather than at the preferred right angle, limiting aviators' view of the runway, which makes taxiing hazardous. This design is non-compliant with national design standards and is a safety issue that increases risks of runway incursions and/or collisions on the runway. The Mid Connector Taxiway is also currently a jug-handle shape that does not meet the current standard right angle intersection with the runway.

The Westerly Taxiway System Improvements involve the following elements: 1) relocate the West End taxiway, 2) realign and reconstruct the westerly end of the parallel taxiway with a run-up pad, 3) and realign the Mid Connector taxiway. These elements would result in the alteration of approximately 28,655 SF of Wetland I, with opportunities to provide on-site wetland restoration. A discussion of the proposed mitigation measures is provided in the mitigation section of this document. In addition, the Westerly Taxiway System Improvements will result in a net decrease in impervious area at the Airport.

Relocate East End Taxiway

The East End Taxiway has the standard design of a ninety-degree intersection but fails to comply with the standard that requires it to connect with the end of Runway 25. Pilots are required to "back-taxi" in order to reach the end of Runway 25 prior to takeoff. This creates potential for collisions between back-taxiing aircraft and landing aircraft. This is a clear safety hazard and must be redesigned according to current standards.

The relocation of the East End Connector Taxiway would shift the Taxiway approximately 200 feet to the east so that it connects at the end of Runway 25, resulting in the alteration of approximately 28,300 SF of Wetland Area B. As with the Westerly Taxiway System Improvements, removal of the existing pavement provides an opportunity to restore wetland habitat.

Reconstruct Terminal Apron

Reconstruction of the Terminal Apron within the same footprint is necessary to maintain airfield safety, as it is deteriorating and well over 20 years old. It is also eligible for the FAA's pavement rehabilitation program. In the Certificate on the DEIR/NPC, the Secretary of EOEEA allowed this project to go forward prior to completion of the FEIR/EA/Section 4(f) Evaluation. The project does not result in an increase in pavement or change in the footprint. A Notice of Intent was filed with the Provincetown Conservation Commission and the project was constructed in 2008 (DEP File No. 058-0440).

Reconstruct Easterly End of Partial Parallel Taxiway

As with the reconstruction of the terminal apron, the pavement reconstruction of the easterly portion of the partial parallel taxiway is intended to replace pavement that is in poor condition within the existing footprint. In the Certificate on the DEIR/NPC, the Secretary of EOEEA allowed this project to go forward as well prior to completion of the FEIR/EA/Section 4(f) Evaluation, as funding is available, although this project will likely be completed as part of the Westerly Taxiway System Improvements.

Install Taxiway Lighting and Construct Electric Vault

The installation of Taxiway Lighting and the construction of the Electric Vault are necessary to improve operational safety on the taxiways during nighttime operations, and to upgrade the reliability of the power supply to the taxiway and runway lighting systems. The current lack of taxiway edge lights and taxiway signs presents a significant operational safety hazard and the existing electric vault is not compliant with electrical code standards and is currently housed within the existing Sightseeing Shack.

The taxiway edge lights and lighted signs would be constructed 10 feet off the edge of the pavement within cultural grasslands that are currently mowed as part of Airport operations. The new electric vault would be a 10 by 10 foot structure, approximately 10 feet high, and similar in appearance to the existing utility buildings for the localizer and the glide slope equipment. An approximately four-foot wide gravel area would be constructed around the vault with a paved walkway to the service door and parking for two vehicles. The vault will be located adjacent to the Sightseeing Shack.

Repair Sightseeing Shack

The Sightseeing Shack Improvements will repair the building once the electrical equipment is removed as part of the taxiway lighting improvements. This would involve the repair of the Sightseeing Shack walls to maintain the safety and integrity of the existing Sightseeing Shack. The structure would remain within the existing footprint for the building and surrounding access area. Although it is not a historic structure, is the intent of the Airport Commission to maintain a building in the same location of similar size and with similar architecture, including a front porch.

Improve Access Road to Approach Light System

The current design of the Access Road to the MALSF Approach Lights is non-compliant with FAA standards and presents hazards to FAA service vehicles. At present, vehicles are required to back up 400 feet on a narrow gravel embankment prior to turning around and exiting the unpaved access path. This is a difficult maneuver, especially due to the lack of shoulders on the path. The edge is difficult to discern, particularly during inclement conditions, and at least one vehicle has gone off the road onto the side slope in the recent past and required a crane to extricate it. FAA design standards for access roads to FAA owned and operated facilities have specific pavement requirements for the roads, including that the first 300 feet be paved when they join a runway or taxiway, as is the case at the Airport. A paved access road minimizes the hazard of small debris and other foreign material from being tracked onto the runway or taxiway, which may damage aircraft or impede operations.

Access Road improvements for the MALSF will involve the construction of a 30 foot by 30 foot vehicle turn-around area at the western end of the existing 10-foot wide gravel service road and paving of the first 300 feet of this access roadway. This project would alter approximately 960 SF of Wetland C/J/FK. Mitigation for this wetland alteration is proposed as described in the mitigation section of this document.

Construct Service Access Roads to Localizer Equipment Shelter and to the Automated Weather Observation Station

The Airport is also required to construct Service Access Roads to the Localizer Equipment Shelter (LES) and to the Weather Station (AWOS). There are currently no access roadways to either structure. FAA operation standards mandate that vehicles have access to airfield equipment. The proposed Access Roads to the LES and to the AWOS would greatly improve maintenance access, especially during inclement conditions or in the case of an emergency. Construction of these access roads has previously been put aside in order to complete other improvements that were more critical at the time. Construction of the roads would enable the Airport to comply with FAA Orders.

The two 10-foot wide service access roads will be constructed opposite each other and perpendicular to the East End TW. The roadways will be banked by one-foot grass shoulders on each side and will also involve small turn-around areas. As with the access road for the MALSF, the first 300 feet of these access roadways must be paved, as they join the runway and taxiway areas. These access roadways will be constructed within coastal dune (cumulatively 7,900 SF of alteration) and a portion of the AWOS access road will traverse Wetland H (290 SF).

Install a Perimeter Safety/Security Fence

The final safety and security related project that is proposed to meet current airport design and operational safety standards is the installation of the Perimeter Fence. Since the Airport operates flights that connect directly to Logan International Airport in Boston, Massachusetts, airfield security must meet the rigid standards found under TSR Part 1542 as well as TSA guidelines. The construction of the fence would also serve to deter wildlife incursions on the airfield, which would protect aircraft operations as well as decrease wildlife mortality. The fence would almost completely enclose currently unsecured areas and minimize unauthorized access for security. In addition, hikers and other persons utilizing the CCNS for recreational purposes tend to find their way onto the airfield operational area; a perimeter fence would identify and limit access to the Airport operational area and increase the safety of all users.

Currently, the preferred alternative for the placement of the fence is “Concept 6,” which follows the treeline and managed areas of vegetation immediately abutting the airfield. For planning purposes, the projected impacts to resource areas involve the direct alteration of 1,152 SF of BVW, 25,648 SF of isolated freshwater wetlands, and 530 SF of coastal dune. Long-term maintenance of a low-growing shrub or herbaceous plant community within a four-foot wide strip on either side of the fence (i.e., an eight-foot wide strip) will indirectly impact BVW, isolated freshwater wetlands, and coastal dunes. Prior to construction, the Airport intends to conduct a pre-construction site walk with regulatory authorities and other appropriate individuals to refine the exact location of the fence. This will further ensure the protection of natural resources and rare species habitat.

2.2 Airport Capacity Projects

The remaining three projects are not associated with safety and security standards, but are intended to address capacity improvements to meet current and projected demand at the Airport. These include expansion of the auto parking, expansion of the terminal building, and expansion of the turf apron. The purpose of these projects is to provide capacity improvements to meet existing and projected demand at the Airport, as indicated by information and studies compiled by the Airport and FAA. A brief discussion of each is provided below.

Expand Auto Parking

The expansion of the auto parking area is proposed to meet existing and projected parking needs. The existing parking area (62 spaces) is frequently full, and drivers are unable to locate a parking place. When parking is unavailable, drivers often resort to parking along the shoulders of Airport Drive (which are comprised of coastal dunes) and, in some instances, on Race Point Road. These roads are not designed for vehicles to park along their periphery, for it creates unsafe conditions along the roadways. While the parking lot may become full anytime during the year, this condition is exacerbated during the peak summer months. Increasing the available parking would eliminate the need to park on the roadways, decrease impacts to the shoulder areas of the roadway, and would increase the overall safety of the roadways and traffic flow.

The preferred alternative for the parking lot expansion (“Concept 4”) would construct the parking lot in two phases. Phase I would involve the construction of 28 additional spaces adjacent to the existing parking lot with paved drive aisles and gravel parking spaces. Phase II specifies for the construction of an additional 29 spaces, for a total of 119 spaces at full build out. Infiltration swales would be incorporated between sections of parking spaces for Phase I, with the anticipated need for additional stormwater management measures (bioretention areas) for Phase II. In addition, the Airport will provide landscape buffers to screen the new parking areas from park visitors along Race Point Road.

Phase I is designed to address the current parking demand. Only after additional parking studies are conducted and subsequently reviewed and approved by NPS and the Cape Cod Commission (CCC), would the second phase be constructed. As an adjunct element to Phase I, efforts to reduce demand by improving awareness of the shuttle system, encouraging the use of taxis, and working with NPS to explore the use of remote lots for long term parking may possibly reduce or delay the need to build Phase II.

Expand Terminal Building

A substantial amount of the Terminal Building previously designated for passenger use was displaced by TSA for mandatory passenger screening and security personnel space. The Terminal Expansion seeks to acquire additional space for passenger use and for other airport personnel while maintaining the current space that has been allotted for TSA use. The increase in public space within the Terminal will also accommodate for future increases in passenger demand.

The preferred alternative for the proposed expansion of the Terminal Building proposes a second floor above the existing building (vertical expansion) with modifications made to the first floor interior to satifisy the need to obtain the space lost to TSA use as well as the projected 0.7% annual increase in passengers over the planning period. This concept would provide the additional terminal space needed to operate the Airport in a safe and efficient manner, specifically the 1,600 SF of lost TSA space plus the 1,000 SF of projected demand over the 20-year period. This concept incorporates the necessary 2,600 SF of passenger space plus the required spatial needs to bring the building up to state and local regulatory codes. Of note, this project would not impact natural resources. Exterior building materials for the selected design would match the existing Terminal Building and will be in keeping with Technical Bulletin 96-001.

Expand Turf Apron

The existing turf apron is not able to accommodate all parking aircraft outside of the taxiway object free area (TOFA) during the peak season, nor is it able to accommodate projected future aircraft parking needs. The construction of an additional turf apron would occur between the two existing turf apron parking areas adjacent to the parallel TW. Construction of this CIP project would result in the temporary alteration of approximately 16,780 SF of currently managed grassland, which will be reconstructed to support the weight of small, single-engine planes. Following construction, this area will continue to be maintained as managed grassland.

The expanded turf apron will accommodate light single-engine GA aircraft, so that these aircraft will no longer have to park on unpaved turf areas currently utilized for parking overflow or on the mid-connector taxiway, both of which present numerous safety hazards. Additional aircraft parking space will aim to eliminate overcrowding on the turf apron as well the associated risks of operational accidents.

3.0 WETLANDS

Vegetation community descriptions at the Airport are based upon the classification system described in the *Classification of the Natural Communities of Massachusetts* (Swain and Kearsley, 2001; hereinafter referred to as "the Classification"). The dominant types of vegetation communities encountered at the Airport include Cultural Grassland, Maritime Dune Community, Coastal Interdunal Marsh/Swale with developing areas of Sandplain Grassland and/or Sandplain Heathland, and Estuarine Intertidal Salt Marsh. Wetland areas delineated at the Airport are identified on Figure 5. Descriptions of these habitat communities and general observations within each community type are provided below.

The site's geologic characteristics, combined with a fluctuating seasonal high groundwater table, result in seasonal saturation of the upper portion of the soil profile for significantly long periods of time during early portions of the growing season. Rainfall received during storm events also contributes to saturated soil and inundated land conditions. Inundated and/or saturated soil conditions favor the establishment of hydrophyte-dominant plant communities and the deposition of organic material, which are typical of wetland habitats.

Wetland habitats at the Airport include isolated freshwater wetlands dominated by grass and herbaceous species (Palustrine Emergent Wetlands or PEM); shrub-dominated isolated wetlands (Palustrine Scrub-Shrub Wetland or PSS); and isolated freshwater forested wetlands (Palustrine Forested Wetland or PFO) dominated by pitch pine (*Pinus rigida*). These isolated wetlands, ranging in size from a few hundred square feet to several acres in size, are associated with coastal interdunal swales and are often separated from each other by low to moderate dune ridges closer to the airfield, and extensive higher dune ridges, oriented parallel to the Airport runway, further out from the airfield. Isolated PSS wetlands also occur within the existing airfield, between the existing taxiways and the runway, and separated from paved surfaces by managed grassland communities of varying width.

The shrub-dominant interdunal wetlands (PSS), which are the predominant type of wetland habitat at the Airport, have a non-tidal, seasonally or temporarily flooded water regime. The relatively dense shrub communities include plant species such as winterberry (*Ilex verticillata*), red maple (*Acer rubrum*), meadowsweet (*Spiraea latifolia*), highbush blueberry (*Vaccinium corymbosum*), northern bayberry (*Myrica pensylvanica*), red chokeberry (*Aronia* spp.), and American cranberry (*Vaccinium macrocarpon*), which often occurs in dense mats. Herbaceous plants observed frequently among the Airport wetlands include sphagnum moss (*Sphagnum* spp.), various sedges (*Carex* spp.), rushes (*Juncus* spp.), cinnamon fern (*Osmunda cinnamomea*), royal fern (*O. regalis*), sensitive fern (*Onoclea sensibilis*), common reed (*Phragmites australis*), wide-leaf cattail (*Typha* sp.), woolgrass (*Scirpus cyperinus*), and various goldenrods (*Solidago* spp.).

Within the pitch pine-forested area between the runway and the steep coastal dune habitat to the southeast of the Airport managed areas, there is an extensive mosaic of additional interdunal forested wetland swales. Within these freshwater wetlands, pitch pine has adapted to the seasonally saturated conditions and is considered a local wetland indicator species.

In the far western reaches of the Airport, there is a larger bordering vegetated wetland system (Wetland C/J/FK) that transitions along a salinity gradient from a freshwater system (PEM-PSS-PFO) to a brackish system (primarily PEM, trending toward Estuarine Emergent Marsh or EEM) as groundwater seeps meet the tidal influence of the Hatches Harbor estuarine system. Brackish portions of this wetland system are dominated by a non-indigenous species, common reed. Efforts to control and manage this invasive plant community were implemented in the early 2000s through the Hatches Harbor Restoration Project, and areas of *Phragmites* die-back are evident from the emerging salt marsh community observed along the landward-reaches of the areas receiving restored salt water influence. One small area of this emerging salt marsh plant community was identified and delineated in the field ("SM").

3.1 Wetland Delineation Information

The wetland resources at the Airport were field delineated and survey-located by wetland scientists at the Horsley Witten Group, Inc. (HW), subcontractors of the Airport. It should be noted that only those wetland areas in close proximity to the proposed project elements and/or their alternative locations have been delineated within the 322-acre Airport site, each identified with an alphabetical designation. The location of wetlands outside of the assessment areas were obtained through Massachusetts Geographic Information Services (MassGIS). An Abbreviated Notice of Resource Area Delineation (ANRAD) was submitted to the Provincetown Conservation Commission and the Massachusetts Department of Environmental Protection (DEP) by HW. A site walk was conducted with representatives from the local Conservation Commission and the Army Corps of Engineers (Corps) to review the wetland boundaries. The delineated wetland boundaries indicated on Figure 6 have been approved by the Conservation Commission to the extent of their jurisdiction (DEP File No. SE-058-0425). Additional wetland information may also be found in the "*Natural Resources Inventory and Rare Species Habitat Assessment Report*," prepared by HW in March 2007.

3.2 Affected Wetlands

Portions of Wetland B, Wetland I, Wetland H, Wetland DM, Wetland BC/F, Wetland E/DD, Wetland DB/FG, Wetland L, Wetland C and Wetland C/J/FK would be affected directly and/or indirectly by the proposed CIP projects. These wetlands are characteristic of the dominant wetland habitat encountered throughout CCNS.

The West End Taxiway is situated adjacent to two scrub-shrub wetlands, specifically Wetland C/J/FK and Wetland I, and is separated from these wetlands by Cultural Grasslands. Vegetation within each of these wetland areas, as well as the grassed shoulders, is maintained for Airport safety. Wetland C/J/FK is a tidally-influenced Bordering Vegetated Wetland (BVW), and evidence of dieback due to an increase in salinity near this Taxiway End[1] has been observed. Wetland I is non-tidal and has a seasonally or temporarily-flooded water regime. Vegetation within Wetland I includes chokeberry, winterberry, meadowsweet, steeplebush (*Spiraea tomentosa*), highbush blueberry, American cranberry, bayberry, and poison ivy (*Toxicodendron radicans*). Relocation of the West End Taxiway will occur within a portion of Wetland I.

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[1] The increase in tidal flushing is associated with the Hatches Harbor Restoration project.

Vegetation within Wetland C/J/FK includes winterberry, arrowwood (*Viburnum dentatum*), meadowsweet, blue-joint (*Calamagrostis canadensis*), American cranberry, and Virginia rose (*Rosa virginiana*). Lesser amounts of purple loosestrife (*Lythrum salicaria*), wide-leaf cattail, and woolgrass are also present, along with significantly large communities of common reed to the north of the parallel Taxiway.

The East End Taxiway is adjacent to Wetland B. Plant species documented within Wetland B include American cranberry, highbush blueberry, dangleberry (*Gaylussacia frondosa*), meadowsweet, winterberry, pitch pine, willow (*Salix* spp.), various sedges and rushes, and small patches of common reed.

Concept 6 for the Perimeter Fence traverses Wetland DM, Wetland BC/F, Wetland E/DD, Wetland DB/FG, Wetland L, Wetland C/J/FK, and Wetland C.

3.3 Functions and Values of Affected Wetlands

The affected freshwater wetlands discussed above contribute to the protection of groundwater supply, public and private water supplies, storm damage prevention, flood storage control, water quality, and preservation of wildlife and rare species habitat. The majority of the wetlands delineated at the Airport provide many of the same functions and values, depending on location and the type of vegetation cover. Most, if not all, of the wetland areas contribute to flood storage and flood storage control by retaining stormwater runoff and allowing for slow groundwater recharge. These wetlands also contribute to water quality by removing sediments and attenuating pollutants.

The topography, soil structure, plant community composition and structure, and hydrologic regime of the wetlands contribute to the protection of wildlife habitat by providing food, shelter, migratory, overwintering, and breeding areas for birds, mammals, reptiles, and amphibians. Some of the wetland areas, particularly those within the coastal interdunal marsh/swales, may also provide habitat for Massachusetts' state-listed rare species.

3.4 Impacts on Wetlands Functions and Values

A total of 1.95 acres of wetland will be directly impacted as a result of all proposed projects.

Overall, 0.05 acres (2,112 SF) of Wetland C/J/FK will be altered as a result of the proposed improvement projects, specifically for the installation of the perimeter fence and improvements to the MALSF access road. The MALSF access road improvements will alter approximately 0.02 acres (960 SF) of Wetland C/J/FK. The perimeter fence will directly alter 0.03 acres (1,152 SF) for the installation of fence posts and long-term vegetation maintenance along the fence within Wetland C/J/FK~~.~~

A total of 1.9 acres (82,893 SF) of isolated freshwater wetlands will be altered as a result of the CIP projects. The Westerly Taxiway System Improvements will result in about 0.65 acres (28,655 SF) of alteration to Wetland I. The relocation of the East Entrance Taxiway will result in the alteration of approximately 0.65 acres (28,300 SF) of Wetland B. The construction of the service access road to the AWOS will alter 0.01 acres (290 SF) of Wetland H. The perimeter fence will directly alter 0.58 acres (25,648 SF) of isolated wetland areas, including Wetland DM, Wetland BC/F, Wetland E/DD, Wetland DB/FG, Wetland L, and Wetland C.

All direct and indirect or temporary impacts associated with construction activities will be mitigated accordingly, so as to achieve no net loss of the functions and values of the affected wetlands as a result of the CIP projects.

Table 1 provides a comprehensive breakdown of wetland impacts incurred by the proposed improvements, on a project by project basis specific to each affected wetland. This table also provides an equally detailed breakdown of proposed mitigation for each project.

4.0 ALTERNATIVES CONSIDERED IN ADDITION TO PREFERRED ALTERNATIVES

This section describes the Preferred Alternative (Proposed Action), the No Action, and reasonable alternatives (if any) for each of the proposed projects that would occur within wetlands. As defined in FAA Order 5050.4B, the Proposed Action is "the solution the airport sponsor wishes to implement to solve the problem(s) it is facing." Alternatives to the Proposed Action have been considered and evaluated. An explanation is provided to justify why some alternatives have been deemed "not reasonable" and were subsequently eliminated from further analyses.

Certain CIP project elements that will not occur within wetlands are not included in this discussion. Those projects elements include the reconstruction of the terminal apron, the reconstruction of the easterly end of the partial parallel taxiway, the installation of taxiway edge lighting and the construction of an electric vault, the repair of the sightseeing shack, construction of the LES access road, the auto parking expansion, the terminal building expansion (vertical concept), and turf apron expansion.

4.1 Westerly Taxiway System Improvements

The potential impacts of improving the westerly end of the TW system at the Airport have been evaluated. The sub-elements of the Westerly Taxiway System consist of the West End Connector Taxiway, the Westerly End of Parallel Taxiway, and the Mid Connector Taxiway. Two alternatives have been analyzed for environmental impacts, and two alternatives have been considered but rejected. The two alternatives analyzed are the No Action alternative and an alternative that would construct westerly TW system improvements.

4.1.1 No Action

The No Action alternative would maintain the West End TW in its current location and would not address the operational safety issues at the Airport. The taxiway would continue to be located within the clear zone in the approach for Runway 7, which creates the potential for collision between a landing aircraft and a plane waiting to takeoff. Aircraft would continue to taxi onto the runway parallel to the runway end and out of visual contact with approaching aircraft. Aircraft would continue to hold short of the runway which limits their view of the runway and other aircraft.

The No Action alternative would maintain the jog in the parallel taxiway, would not replace the pavement which is over 20 years old and in poor condition, and would not address the operational safety issues at the Airport. Paved surfaces at airports must be maintained in good condition. Airfield pavement standards estimate a useful lifespan of 20 years, after which pavement is eligible for reconstruction.

While no impacts to environmental resources would occur with the No Action alternative, the No Action alternative would maintain the existing Mid Connector TW with the non-standard jug-handle intersection with the runway and the parallel taxiway. It would also not align properly with the proposed relocated West End TW and the proposed realigned westerly end of the parallel TW. No impacts to natural resources would occur with the No Action alternative because there would be no construction or change in current conditions.

4.1.2 Westerly TW System Improvements (Proposed Action and Preferred Alternative)

The sub elements of the Westerly Taxiway System consist of:

A. West End Connector Taxiway
B. Westerly End of Parallel Taxiway
C. Mid Connector Taxiway

The sub elements are discussed individually but will be combined as one project in terms of permitting and construction because the elements would be constructed at the same time.

(A.) Relocate West End Taxiway with Standard Right Angle Out of the Runway 7 Approach

The alternative to relocate the West End TW would address the operational safety issues and would be in compliance with FAA design standards. The taxiway would connect with the end of the runway at a right angle and would be located out of the approach for the runway.

(B.) Realign Westerly End of Parallel Taxiway

This alternative would shift the westerly end of the parallel TW to meet the existing edge of pavement of the easterly portion of the parallel TW. A run-up pad, as required by FAA design standards for new construction, would also be constructed at the end for aircraft to perform required engine and systems checks before takeoff, without blocking the taxiway. The parallel TW would be reconstructed with a consistent width of 40 feet. Since the pavement width is currently 60 feet, pavement would be removed. Cultural Grassland habitat would be restored in areas of pavement removal.

(C.) Realign Mid Connector TW

The alternative to realign the Mid Connector TW would provide a standard 90 degree intersection design. The aging pavement would also be reconstructed to address the hazard of loose pavement causing harm to aircraft and passengers. The project would be constructed within the existing area of pavement and managed Cultural Grassland habitat.

Collectively, the three elements of the Preferred Alternative for the Westerly TW System Improvements would result in alterations to approximately 28,655 SF of wetlands, 6,400 SF of coastal dune, rare species habitat for one or more state-listed species, as well as temporary impacts to grassland habitats. Proposed mitigation measures would restore or create these resource areas and habitats from existing paved surfaces that would be removed.

4.1.3 Environmentally Preferred Alternative

After review, the Westerly Taxiway System Improvements (Preferred Alternative) is the Environmentally Preferred Alternative. The Preferred Alternative would result in a net loss of pavement and includes mitigation to restore areas of wetland (and coastal dune) impacted by the project. The current state of the taxiway is a hazard to aviators and passengers, and is a risk to the safety of those traveling to and from the Airport, as Airport operation in this area involves runway activity and airplanes in flight (as opposed to ground operations such as taxiing). Constructed improvements are necessary to address the Part 77 navigable airspace safety and operational issues of the West End TW that is currently within the approach to RW 7. These improvements will restore and maintain operational safety within the Part 77 airspace. Additionally, measures to minimize adverse impacts to wetlands such as steepened slopes have been incorporated into the design, and construction period mitigation measures such as erosion control and construction timing will be implemented to reduce overall impacts. An invasive species management plan would also be implemented to preserve an environment that supports the natural diversity found within the CCNS.

Among the alternatives considered, the West End Improvements would ultimately attain the greatest balance between the human population, the operational safety needs for the Airport, and the surrounding natural environment.

4.1.4 Alternatives Considered But Rejected

"*Existing Footprint Alternative*." The alternative that would reconstruct the West End TW within the existing footprint was suggested by others during the ENF comment period as a way to minimize impacts to wetland and grassland habitats. This alternative would provide a standard right angle connection to the runway, but the taxiway would continue to be located within the approach to Runway 7. Likewise, the risk of collisions would not be reduced because aircraft would continue to enter parallel to the runway end, rather than perpendicular to the end of the runway.

This alternative would have unavoidable impacts to approximately 13,665 SF in Wetlands I and C/J/FK, as well as additional impacts to grassland habitat. Proposed mitigation measures would restore or create these habitats to the extent practicable from existing paved surfaces that would be removed.

The alternative that would reconstruct the existing TW footprint with a standard right angle within the existing footprint has been deemed unsafe and unfeasible because it would not comply with the FAA safety and design standards and it would not address existing operational safety issues. This alternative has been dismissed from further review.

"*Lights on Existing Parallel TW Alternative*" It was suggested in the comments on the ENF that installation of taxiway lights alone on the existing taxiway could address the safety issues relative to the jog in the partial parallel taxiway. Environmental impacts with this alternative would be limited to minor impacts to grassland habitat. However, pilots do not expect to encounter a jog mid-way along a parallel taxiway. Installation of edge lights would not fully eliminate the non-standard hazardous condition of maneuvering the aircraft through an unexpected turn at night or in bad weather conditions, and would not correct the operational safety issues created by the misaligned pavement. This alternative has been dismissed from further review.

4.2 East End TW Relocation

Two alternatives for the East End Taxiway Relocation have been analyzed, including the No Action alternative and an alternative that would relocate the East End TW to connect with the end of Runway 25.

4.2.1 No Action

The No Action alternative would maintain the 200-foot offset between the end of Runway 25 and East End TW. Aircraft would continue to back-taxi on the active runway, maintaining the current unsafe conditions by possibly interfering with landing aircraft. No impacts to natural resources would occur with the No Action alternative, as there would be no construction or change in existing conditions.

4.2.2 East End TW Relocation (Proposed Action and Preferred Alternative)

The alternative to relocate the East End TW to connect with the end of the runway would be in full compliance with FAA mandated design standards without impacting the terminal apron. There would be a slight curve in the East End TW centerline to avoid aircraft on the terminal apron. This configuration would not present a safety hazard because the terminal apron is well lit with overhead lighting, and planes are moving slowly as they enter the East End TW. Implementation of this alternative would result in alterations to approximately 28,300 SF of Wetland B.

4.2.3 Environmentally Preferred Alternative

Of the alternatives considered for the East End Taxiway, the East End TW Relocation alternative (Preferred Alternative) is the Environmentally Preferred Alternative. While this alternative involves construction, relocating the current configuration of the taxiway will greatly reduce the significant safety hazard that the current configuration presents to aviators and passengers traveling to and from the Airport. The Preferred Alternative will address the Part 77 navigable airspace safety and operational issues of the East End TW that currently requires planes to back taxi on the active runway. As operations within the East End TW involve runway activity and airplanes in flight, the relocation of the taxiway is required to restore the necessary level of safety in this area to avoid potential undesirable and unintended consequences, while maintaining the diversity of natural resources at the Airport, to the fullest extent possible.

The preferred alternative includes mitigations to restore areas of wetland and coastal dune impacted by the relocation of the taxiway. Measures to minimize adverse impacts to wetlands and coastal dunes such as steepened slopes have been incorporated into the design, and construction period mitigation measures will be implemented such as erosion control and time of construction to reduce overall impacts. An invasive species management plan will also be implemented to preserve an environment that supports the natural diversity found within the CCNS. The East End TW Relocation would ultimately attain the greatest balance between the human population, the need to restore operational safety for the Airport, and the natural environment.

4.2.4 Alternatives Considered But Rejected

No other alternatives were identified.

4.3 Access Road to MALSF Approach Lights

The potential impact of improving the access road to the MALSF approach lights was also evaluated. Two alternatives will be analyzed for environmental impacts, including the No Action alternative and an alternative that would construct a turn-around. Three alternatives have been considered but rejected.

4.3.1 No Action

The No Action alternative would maintain the existing gravel/earthen access road with narrow embankments. As a result, vehicles accessing the MALSF for maintenance or repairs would continue to need to back up for a distance of approximately 400 feet along the narrow access road, and the associated safety issues would continue to exist. There would be no direct environmental impacts associated with the No Action alternative, for construction would not occur.

4.3.2 Construct Turn-Around (Proposed Action and Preferred Alternative)

The Preferred Alternative would involve the construction of a turn-around area, so that vehicles would no longer have to back up the length of the narrow access road. The proposed turn-around area would be 30 feet wide and 30 feet long to provide adequate space for a vehicle to safely reverse direction. The turn-around area would occur within approximately 960 SF of Wetland C/J/FK, and would be constructed along the north side of the embankment so that it would not interfere with the approach lights. The material used to construct the turn-around would be delivered to the site and would not be excavated from the adjacent wetland area. Proposed compensatory mitigation for lost wetland area would be provided nearby at a greater than 1:1 ratio from an area of existing managed grasslands to preserve an environment that supports the natural diversity found within the CCNS. Additional mitigation measures, including construction measures, would be implemented to minimize and avoid further resource area alteration and help to protect the natural landscape of the CCNS.

While this alternative would directly alter an area of wetland, measures to mitigate possible adverse impacts of the project would include avoidance of impacts to the extent possible, resource restoration, and other construction mitigation measures. In addition, an invasive species management plan would be implemented to preserve an environment that supports the natural diversity found within the CCNS.

4.3.3 Environmentally Preferred Alternative

After review, the No Action alternative has been selected as the Environmentally Preferred Alternative solely because the project does not involve operational safety improvements for aircraft operations within Part 77 navigable surfaces nor will it occur within an existing footprint. Additionally, under the No Action alternative there would be no construction and wetlands would not be altered. The safety and operational issue is ground operation-related and affects vehicles accessing the navigational lighting system.

4.3.4 Alternatives Considered But Rejected

Reduced Turn-Around Footprint with Curbing: A smaller turn-around area with curbing installed along the length of the access roadway to alert drivers to the limits of the roadway width was considered. This alternative would reduce but not eliminate direct wetland impacts, which would need to be mitigated. A structure as low as a concrete curb could not be installed, as it would constitute a vertical penetration into the Runway 7 approach surface and would not be allowed under FAA regulations. This alternative has been dismissed from further review.

Guardrail: Installation of a guardrail along the length of the existing access roadway was also considered as an alternative, but was deemed unfeasible because of the vertical penetration into the Runway 7 approach surface. Any objects that need to be located within this object free approach area must be frangible (able to be snapped off on impact), which would defeat the function of a guardrail. In addition, the roadway embankments would need to be widened to accommodate the construction of the guardrail without losing width along the roadway, necessitating additional wetland alteration, which would require mitigation. This alternative has been dismissed from further review.

Acquire a Utility Vehicle: The Airport has also considered acquiring a utility vehicle for the purposes of accessing the MALSF equipment for maintenance or repair. This alternative would not result in environmental impacts. FAA personnel would need to transfer their equipment to a smaller utility vehicle. However, FAA personnel need access to all equipment in their vehicles during all weather conditions, and could not feasibly transfer all equipment to a small utility vehicle at one time. The runway is required to be shut down for certain inspection or maintenance procedures, and transferring necessary equipment that would not fit within a smaller vehicle at one time, would result in potential unnecessary delays at the Airport. This alternative has been dismissed from further review.

Construct Shoulders (Option 1): This alternative would widen the entire length of the MALSF access road embankments to construct two-foot shoulders on each side of the existing access road. This alternative would impact approximately 1,800 SF of Wetland C/J/FK, and would not eliminate the safety hazard of vehicles needing to back up for 400 feet. This alternative has been dismissed from further review.

4.4 Service Access Road to the Weather Station (AWOS)

Two alternatives were analyzed for the Service Access Roads to the AWOS, including the No Action alternative and an alternative that would construct an access road to the AWOS behind the hold line and off the East End TW (Alternative 2). Several alternatives have also been considered and rejected for this project element.

4.4.1 No Action

The No Action alternative would retain the lack of defined access routes to the AWOS, which would prevent vehicle access to the site other than via the runway operating area. Even though there are a few circumstances when service on the AWOS requires the runway to be shutdown, most inspection and maintenance operations are carried out while the runway is active. Although there would be no direct long-term adverse impacts to natural resources, vehicle access to the equipment stations results in temporary impacts to natural resources and habitat each time vehicles traverse these naturally vegetated areas.

4.4.2 Service Access Road to AWOS (Alternative 2)

The Preferred Alternative for this CIP project element would require the construction of a 10-foot wide defined access roadway, which would be paved for the first 300 feet off the East End TW, in full compliance with FAA standards. The access road to the AWOS would alter 290 SF of Wetland H. Proposed mitigation measures, including construction timing measures and compensatory mitigation for the loss of natural resources would be proposed as part of this alternative.

4.4.3 Environmentally Preferred Alternative

The Environmentally Preferred Alternative for this CIP project is the No Action alternative because the project does not involve operational safety improvements for aircraft operations within Part 77 navigable surfaces and will not occur within an existing footprint. The No Action alternative would not result in construction, and wetland and coastal dune resources would not be altered. The safety and operational issue pertains to vehicles accessing the weather station equipment.

Although the No Action Alternative would not involve construction within wetlands and coastal dunes, this alternative would not address the operational safety issues resulting from the lack of designated access roads to the airfield equipment. The No Action alternative would not eliminate the tracking of foreign materials onto the runway and taxiways, which presents a safety hazard to users at the Airport. The No Action alternative is not the Preferred Alternative. The Preferred Alternative for the project includes measures to minimize adverse impacts to wetlands, such as steepened slopes and a narrower road width. Construction period mitigation measures will be implemented such as erosion control and time of construction to reduce overall impacts.

4.4.4 Alternatives Considered But Rejected

Pavement Alternatives: The alternative of constructing the roads from a porous pavement was evaluated. Porous pavement is a special type of pavement that allows rain and snowmelt to infiltrate, reducing runoff. However, these pavements require an intensive maintenance schedule and can easily become clogged with sands. Due to the sandy soils at the site and windy conditions that would blow sand onto pavement, this porous pavement has been dismissed from further review. Alternative types of pavement that would reduce any visual impacts (e.g., Natural Pave®, a sand-colored pavement, etc.) were also researched for these project elements, but use of these alternative pavement surfaces would result in unnecessary expenses. Use of alternative pavements has been dismissed from further review.

Acquire Utility Vehicle: The Airport has considered the use of an off-road utility vehicle for access to the AWOS. As with the use of a utility vehicle for the MALSF, this alternative has been deemed unfeasible because FAA personnel need access to all equipment in their vehicles and cannot feasibly transfer all the equipment to a smaller utility vehicle. Additionally, the use of a utility vehicle, while perhaps reducing the loading impacts within the coastal dunes and wetlands, would not eliminate the random access routes currently being taken by vehicles when accessing these equipment areas. This alternative has been dismissed from further review.

AWOS Alternative 1: Alternative 1 for the AWOS access road connects with the East End TW. The road would be approximately 800 feet long and would be paved in compliance with FAA standards. Alternative 1 would impact approximately 440 SF of Wetland H and would yield comparable impacts to coastal dunes and associated habitat as would occur under the Preferred Alternative. This alternative would align with the LES Alternative 1, but has been dismissed from further review, as a shift in the proposed alignments of both access roadways would reduce wetland impacts.

AWOS Alternative 3: Alternative 3 would connect with the parallel taxiway and, as with all of the alternatives for the access roadways, would be paved for 300 feet. Approximately 3,000 SF of Wetland H would be altered for this alternative. As other alignments would avoid wetland impacts to this degree, this alternative was dismissed from further review.

AWOS Alternative 4: This alignment has a direct connection with the active runway operating area, which would not meet FAA design standards and would not be allowed. This alternative would result in direct, permanent alterations to Wetland H (720 SF) and coastal dune and grassland habitat (3,480 SF). This alternative has been dismissed from further review.

AWOS Alternative 5: As with AWOS Alternative 4, this alignment has a direct connection with the active runway operating area (between the runway and the hold line of the taxiway), which would not meet FAA design standards and would not be allowed. The L-shaped configuration of this alternative alignment would result in direct, permanent alterations to720 SF of Wetland H and 9,840 SF of cultural grassland habitat. This alternative has been dismissed from further review.

4.5 Perimeter Safety/Security Fence

Seven alternatives have been designed for the construction of a Perimeter Safety/Security Fence, four of which have been carried forward and analyzed for permitting purposes. The four alternatives analyzed are the No Action alternative, and three fence alignments: Concept 6 (Final Preferred Alternative), Concept 4, and Concept 1 (Preferred Alternative in Draft EIR/EA). Three alternatives have been considered but rejected.

4.5.1 No Action

While the No Action alternative would have no direct impacts to the natural resources or habitats at the Airport, the No Action alternative would not address operational safety and security, visitor safety, and wildlife safety issues. The potential for deer and other (non-avian) wildlife to continue to come into conflict with operating aircraft, jeopardizing the safety of passengers and pilots using the Airport, would remain. Unauthorized persons would continue to have undeterred access to the currently unsecured airport operating area, and recreational users (including hunters) would remain a potential threat to the health and safety of aircraft operations and those using the Airport facilities. It may also be noted that TSA and MassDOT ban the possession of firearms in aircraft operational areas.

4.5.2 Perimeter Safety / Security Fence Concept 6 (Proposed Action and Preferred Alternative)

Concept 6 would involve the construction of an 11,700 linear foot (LF), nine foot high, black vinyl chain link security fence with two inch openings topped with three strands of barbed wire that would traverse areas of wetlands (1,898 SF). Direct impacts to natural resources would involve alterations associated with the installation of fence posts and conversion of forested and dense shrub areas to low growing communities as a result of vegetation management within the four-foot wide swaths on either side of the fence. Indirect (secondary) impacts are based upon areas where vegetation is already open and/or low growing and will not require vegetation management, but may experience temporary alterations due to construction. Vegetation management within areas consisting primarily of *Phragmites* is also considered an indirect impact. Vegetation on either side of the fence must be maintained so that trees and tall shrubs will not visually obstruct the fence during monitoring and maintenance of the structure or jeopardize the structural integrity of the fence. These areas would be either brush hogged or trimmed, but would not be graded. The cleared areas would allow for inspection of the fence. The close proximity of the fence alignment to the taxiway would allow a majority of the fence to occur within vegetated areas that are currently maintained and would eliminate the need for the construction of patrol roads for fence maintenance. The fence would connect with the existing sections of fence adjacent to the bike path and the SRE building. Additionally, Concept 6 would eliminate fencing at the west end around the ILS.

Approximately 113 acres would be partially enclosed with the Concept 6 fence alignment. However, as noted above, the western-most end around the ILS would not be enclosed, thus eliminating direct impacts within tidally-influenced portions of Wetland C/J/FK. In consultation with the Massachusetts Natural Heritage and Endangered Species Program (NHESP), the fence design would incorporate gaps along the bottom to allow for the movement of Eastern Box Turtles, minimizing impacts to the movements of this state-listed rare species as well as other small animals.

The fence would be topped with barbed wire, which would serve as a deterrent to deer jumping the fence. Although deer can jump higher than nine feet, the angled wire along the top makes it difficult for them to judge the height of the fence. Additionally, cleared areas along the fence would allow deer to run along the outside of the fence (rather than jump the fence onto the active airfield if alarmed).

4.5.3 Perimeter Safety / Security Fence Concept 4

Concept 4 would involve the construction of an approximately 15,400 LF fence of similar design to that of the Preferred Alternative, although this fence alignment would continue to enclose the approach light system, completely enclosing the Airport facilities. Direct and indirect alterations to wetlands would occur with Concept 4. This concept would meet the project purpose and would not impact Airport operations or protected operational and navigational surfaces and object free areas.

4.5.4 Perimeter Safety / Security Fence Concept 1

The Concept 1 alignment follows the perimeter of the Airport lease area. The length of the fence would be approximately 24,000 LF, and would result in direct (34,067 SF) and indirect (33,800 SF) alterations to wetlands, while completely enclosing approximately 317 acres of the 322 acres of the Airport lease area. This alignment would require a 10-foot wide paved or gravel access road to allow for fence maintenance. The alignment would meet the project purpose and would protect Airport operations within airport operational areas and navigational surfaces.

4.5.5 Environmentally Preferred Alternative

Of the alternatives considered for the Perimeter Safety/Security Fence, the No Action alternative has been selected as the Environmentally Preferred Alternative, as the project does not involve operational safety improvements for aircraft operations within Part 77 navigable surfaces and will not occur within an existing footprint. The No Action alternative would not involve construction and would not alter wetland resources.

Although the No Action alternative would not involve construction within wetlands, this alternative would not address the safety and security issues resulting from the lack of a perimeter fence. This alternative would continue to risk the health and safety of those at the Airport, possibly resulting in potentially undesirable or unintended consequences, both of which are defining elements of an environmentally preferred alternative per DO-12.

The No Action alternative is not the Preferred Alternative. An extensive analysis was carried out for the safety security fence in order to identify an alternative that would address the security and safety issues while minimizing impacts to wetlands, wildlife, and other natural resources. While the Preferred Alternative would result in impacts to resource areas, significant mitigation measures have been incorporated into the design and alignment of the fence concept to minimize these impacts. Additionally, a construction management plan has been drafted to minimize impacts during construction.

4.5.6 Alternatives Considered But Rejected

This section describes the following alternatives that have been identified and dismissed.

- Concept 2: Apron Offset North; 500 Foot Primary Surface South
- Concept 3: Apron Offset North; 1,000 Foot Primary Surface South
- Concept 5: Apron Offset North; Wetland Offset South

Concept 2: Apron Offset North; 500 Foot Primary Surface South: This fence alignment would be offset approximately 320 feet from the runway centerline on the south side in compliance with the current FAA Waiver, and approximately 10 feet off the back of the aircraft aprons on the north side of the taxiway. It would enclose the ILS with a 10-foot wide area on the outside of the fence maintained to be clear of trees and shrubs, and a 10-foot wide vehicle travel path on the Airport side of the fence for security inspection patrols. The total length of the fence would be approximately 17,000 LF, enclosing approximately 104 acres and fragmenting wildlife habitat from the CCNS lands. The alignment would directly and indirectly impact approximately four acres of wetlands (both bordering and isolated) and prime breeding habitat for the Eastern Spadefoot Toad with additional impacts to coastal dunes and associated habitats. In addition, Concept 2 has the potential to impact tidal flow and flood storage capacity since the portion of fence in the vicinity of the ILS may impede normal tidal flow and flooding during storm events.

Concept 2 would meet the project's purpose and need, and would be in compliance with the current FAA Waiver. Under the current Waiver, any fence alignment must be at least 63 feet beyond the edge of the FAR Part 77 Primary Surface to accommodate the 7 to 1 Transitional Surfaces that extend upward and out as an obstruction clear area. However, if this Waiver were ever to be revoked in the future, Concept 2 would have to be removed and relocated. Therefore this alternative has been deemed unfeasible for cost and environmental permitting reasons, and has been dismissed from further review.

Concept 3: Apron Offset North; 1,000 Foot Offset Primary Surface South:
This alignment would have an approximately 500-foot offset from the runway centerline on the south and approximately 10 feet off the back of the aircraft aprons on the north side. It would enclose the ILS with a 10-foot wide area on the outside of the fence maintained to be clear of trees and shrubs, and a 10-foot wide vehicle travel path on the Airport side of the fence for security inspection patrols. This alignment would be cost effective because it would be in compliance if, in the future, the Waiver is revoked. The length of the fence would be approximately 17,900 LF, enclosing approximately 128 acres. The alignment would impact approximately 4.5 acres of wetlands and prime breeding habitat for the Eastern Spadefoot Toad and coastal dunes and Eastern Box Turtle habitat, which would likely have adverse impacts to these rare species. As with Concept 2, Concept 3 has the potential to impact tidal flow and flood storage capacity since the fence is in the vicinity of the ILS. Maintaining the fence alignment in close proximity to the taxiway would reduce direct, long-term wetland and dune impacts by eliminating the need for a portion of the perimeter roadway. Concept 3 would meet the project purpose and need, however, this alternative has been deemed unfeasible for environmental permitting reasons, and has been dismissed from further review.

Concept 5: Apron Offset North; Wetland Offset South: Concept 5 would enclose the ILS with a four-foot wide area on the outside of the fence maintained to be clear of trees and shrubs, and a 10-foot wide vehicle travel path, which would be maintained on the Airport side of the fence for security inspection patrols, except where the fence can be inspected from the GA aprons on the north. The Concept 5 alternative generally follows the same alignment on the southern side as Concept 4. On the northern side, however, the fence would be located on a minimum 10-foot offset behind the aircraft parking aprons. The length of the fence would be approximately 14,000 LF, encompassing 148 acres. Concept 5 would impact approximately 1.5 acres (direct and indirect) of wetlands and, as with Concepts 2 and 3, would have the potential to impact tidal flow and flood storage capacity since the fence would be in the vicinity of the ILS. While located within wetland areas, the close proximity of the fence to the taxiway would eliminate the need for a perimeter roadway along this stretch of the fence (e.g., as with the northern segments considered in Concepts 2 and 3). It is anticipated that this alignment would only require vegetation management along the fence, minimizing wetland alterations. In addition, portions of these wetlands are currently subject to vegetation management practices to maintain airfield safety. Similar to Concept 4, Concept 5 is also located at the base of the dune ridge to the south of the runway. Certain segments of the fence would require a vehicle path would approximately 10 feet wide. In other areas where the fence traverses through currently managed airfield areas, the width of vegetation clearing would be reduced to four feet on only one side of the fence where patrol roads are not necessary, so as to minimize impacts.

This alignment provides suitable clearance along the north side of the GA aprons to accommodate spatial considerations for aircraft that are pushed by hand onto the turf aprons, access to the electric controls on the back of the GA apron light poles, and meets the purpose and need and fully complies with FAA design standards.

This proposed alignment, while reducing overall wetland impacts, would still result in habitat fragmentation on the south side of the Airport, separating the large aggregate of wetland areas from the adjacent upland areas of coastal dune. Taking the results of Eastern Spadefoot Toad habitat surveys into consideration, the placement of the fence along the toe of the dune ridge would potentially interfere with breeding activity for this species. Thus, it was determined that Concept 5 was not the preferred alternative with respect to the natural resources at the Airport, for it requires the construction of patrol roads along certain lengths of the fence (except for north of the taxiway) for monitoring, and encloses a portion of the tidally-influenced wetlands within Hatches Harbor. As such, this alternative has been dismissed from further review.

5.0 SELECTED DESIGN AND LOCATION OF PREFERRED ALTERNATIVES

The unique environmental setting of the Airport, specifically the abundance and proximity of resource and habitat areas to one another and their overlapping nature, have made project design and the avoidance of natural resource areas challenging. However, the Airport has designed all project elements to avoid and minimize impacts to wetland areas to the fullest extent practicable in order to preserve and protect the functions and values of the wetlands without incurring a substantial hardship, while still addressing the FAA, TSA, and MassDOT safety and security mandates. The wetland impacts noted above are unavoidable, primarily due to the fact that the improvements to the Airport must occur within discrete locations (i.e., the taxiway realignment must occur within a certain portion of the taxiway, not in an alternative location outside the vicinity of the airfield), and are held to FAA-regulated standards.

The CIP projects contribute to the general public good and safety. The Airport will develop a comprehensive and integrated mitigation package through coordination with the NPS, the Corps, DEP, the NHESP, the regional Cape Cod Commission (CCC), and the Provincetown Conservation Commission, along with other pertinent regulatory entities in order to compensate for all direct and indirect impacts to wetlands and other protected resource areas.

6.0 WETLAND COMPENSATION

Several of the CIP projects will result in unavoidable alterations to freshwater wetlands (isolated and/or bordering). These impacts have been avoided and minimized to the extent practicable as is evident in the presentation of alternatives.

Draft wetland restoration plans have been developed in compliance with several regulations, performance standards, and guidance documents that relate to wetlands, including the Massachusetts Wetlands Protection Act, the Provincetown Wetland Bylaw, Sections 401 and 404 of the Clean Water Act, and the CCC Regional Policy Plan (RPP). Given the environmental constraints at the Airport, on-site wetland mitigation for direct impacts will occur primarily as wetland restoration in areas where existing impervious surfaces and fill will be removed. Indirect impacts as well as secondary impacts associated with the cutting of vegetation and long-term maintenance of vegetation communities along the fence will be mitigated through the integrated management of discrete populations of *Phragmites australis*, an invasive species in Massachusetts.

Mitigation also includes past mitigation efforts provided through the Hatches Harbor Saltmarsh Restoration Project ("Hatches Harbor Project") in accordance with the April 28, 1997 Memorandum of Understanding between the NPS and the Town of Provincetown and as reiterated in the November 5, 2010, letter from NPS to FAA. The Hatches Harbor Project, implemented in the early 2000s, included a substantial restoration effort of salt marsh and freshwater wetland habitat. As such, the Airport will apply mitigation credits granted through the participation in the Hatches Harbor Salt Marsh Restoration Project. Previously, it was thought that additional off-site mitigation would be necessary in order to satisfy the NPS requirements for resource impacts. However, in accordance with the April 28, 1997 MOU between the Town and NPS, and reiterated in the recent letter from NPS (dated November 5, 2010), implementation of the Hatches Harbor Salt Marsh Restoration Project was to result in 60 to 90 acres of wetland habitat restoration, and the 1997 MOU established that the mitigation provided by the implementation of the Hatches Harbor Salt Marsh Restoration Project "*will be classified as mitigation for the wetland impacts of required present AND FUTURE airport safety improvements*." In their November 5, 2010 letter, NPS/CCNS "*agrees that FAA's contribution to salt marsh restoration at Hatches Harbor can be applied as off-site mitigation for activities covered in the Current Capital Improvements Plan.*"

The following mitigation plans are intended to address the various regulatory requirements as well as address impacts to Park resources. The Airport proposes on-site wetland restoration to compensate for direct wetland impacts, which reflect on-site freshwater wetland restoration ratios of approximately 1:1. Bordering vegetated wetland will be mitigated at a 2.4:1 ratio. Table 1 summarizes the direct wetland impacts and the on-site mitigation ratios.

The NPS finds that this proposed action is consistent with the policies and procedures of Director's Order #77-1: Wetland Protection, including the "no net loss of wetlands" policy.

6.1 Compensation Details

Overall, 0.05 acres of Wetland C/J/FK (BVW) will be altered as a result of the proposed improvement projects, specifically by the installation of the perimeter fence and improvements to the MALSF access road. The MALSF access road improvements will alter approximately 0.02 acres of Wetland C/J/FK. The Perimeter Fence will directly alter 0.03 acres of Wetland C/J/FK.

A total of 1.9 acres of isolated freshwater wetlands will be altered as a result of the CIP projects. The Westerly Taxiway System Improvements will result in about 0.65 acres of alteration to Wetland I. The Relocation of the East Entrance Taxiway will result in the alteration of approximately 0.65 acres of Wetland B. The construction of the Service Access Road to the AWOS will alter 0.01 acres of Wetland H. The Perimeter Fence will directly alter 0.58 acres of isolated freshwater wetlands and indirectly alter 0.09 acres of isolated freshwater wetland areas. All direct and indirect impacts will be mitigated accordingly, so as to achieve "no net loss" of the functions and values of the affected wetlands as a result of the CIP projects. Mitigation details are provided below.

Wetland Restoration Details

Relocation of the West End TW and East End TW and subsequent reduction of the existing paved areas for the parallel TW and Runway 7 allows for wetland restoration within the footprint of existing developed and paved areas. As proposed, wetland mitigation will result in a total of approximately 1.8 acres (78,000 SF) of restored isolated wetlands (shrub swamp) at the Airport in two locations (Mitigation Areas A and C), resulting in a mitigation ratio of approximately 1:1. Mitigation Area A would be located within the curved footprint of the existing West End TW adjacent to portions of Wetland C/J/FK and contiguous with Wetland I, while Mitigation Area C would be located within the footprint of the existing East End TW, south of the terminal apron and contiguous with Wetland H, as shown on Figures 7 and 8. A third location, Mitigation Area B, would be located adjacent to the access road to the approach lights, to the southwest of the (abandoned) West End TW. Mitigation Area B would be contiguous with Wetland C/J/FK and would restore approximately 0.11 acres (5,000 SF) of BVW, resulting in a net gain of 0.06 acres (2,888 SF). Each of these areas is highly suitable for wetland restoration due to their proximity to existing wetlands and the existing shallow groundwater table.

6.2 Restoration Process

The wetland mitigation methodology is modeled from the Massachusetts Inland Wetland Replication Guidelines (March 2002) prepared by the Massachusetts DEP, as well as the performance standards for wetland replacement in accordance with 310 CMR 10.55(4)(b)(1 though 7), the Town of Provincetown Wetlands Bylaw (Chapter 12 of the General By-Laws of Provincetown), and the Corps' New England District Compensatory Mitigation Guidance and Mitigation Plan Checklist.

Wetland restoration activities will generally involve removal of existing pavement and gravel sub-base, excavation to appropriate sub-grade to intercept available hydrology, incorporation of native wetland vegetation and a seed mixture to stabilize disturbed soils, and implementation of monitoring plans to ensure the successful establishment of a wetland plant community. A qualified wetland scientist will oversee all aspects of the wetland restoration efforts. Details of these activities are provided below.

Prior to the commencement of any restoration activities, a sedimentation and erosion control barrier, consisting of staked siltation fencing, will be installed along the wetland boundary to protect the adjacent area during earth moving activities. Following installation of this sedimentation barrier, impervious surfaces (asphalt and gravel sub-base) will be removed and transported off-site to a suitable disposal facility.

As much as practicable, vegetation within wetland areas to be altered will be removed in large patches with a front end loader or other suitable machine and stockpiled nearby for later re-introduction within the restoration area(s). This will allow for greater success in the establishment of the plant communities within wetland restoration areas. Salvaged plant materials will be covered and maintained (watered) in good condition until the restoration areas have been prepared.

It is anticipated that the original soil profile may be intact beneath the impervious surfaces and that only minor grading would be necessary in most areas to obtain suitable hydrology to support a wetland plant community. As such, care will be taken to avoid removal of any original soil materials encountered beneath the impervious surfaces. Thus, re-grading is not anticipated.

Successful wetland restoration will require sufficient hydrologic conditions. Specifically, groundwater should be close enough to the surface such that saturated soils exist within one foot of the final elevation during the growing season. These elevations should provide 4 to12 inches of standing water during the winter and spring, as observed within other seasonally flooded wetland areas at the Airport. Six (6) monitoring wells have been installed to observe groundwater elevations within the existing wetland areas and as close as possible to the proposed restoration areas. At present, depth to water measurements have been recorded on two separate dates. No appreciable difference in depth to water was observed across all six wells, suggesting that removal of existing impervious materials alone will result in sufficient hydrological conditions. Additional measurements may be taken as necessary prior to commencement of restoration activities.

Planting Sequence

Following removal of fill materials, shrubs and herbaceous groundcover will be planted within the restoration area. Salvaged vegetation will be relocated to the restoration areas. Additional native plant materials possessing native genotypes (local genetic stock) will be obtained from local nurseries to augment the salvaged vegetation. This will ensure that plant genotypes from other regions are not imported to the area. Shrub species will be representative of the existing vegetation communities within the isolated wetlands. Tree species will not be incorporated in the restoration areas because these obstacle-free areas need to be maintained by the Airport as shrub swamp communities.

Proposed shrub species may include winterberry, red chokeberry, meadowsweet, steeplebush, American cranberry, and Virginia rose, or acceptable equivalent species. Shrubs will be planted in clusters of two to three, placed five to six feet on center. The planting distribution of American cranberry will depend upon the hydroperiod of each area. In shallow ephemeral wetlands, the cranberry will be planted at the lowest elevations of the wetland. In deeper, more permanent wetlands, the cranberry will be planted along the periphery. The elevation of the restoration plantings will be similar to the existing plant distribution observed within the wetlands at the Airport. Efforts will be made to plant near the beginning or the end of the designated growing season (Barnstable County growing season extends from April 26 to October 23) to ensure greater plant survival. Upon completion of the restoration area plantings, siltation fencing will be placed along the upgradient side of the restoration areas.

Draft Plant List for Wetland Restoration

Species	**Specifications**
Arrowwood (*Viburnum dentatum*)	Planted in clusters of 2-3, 5-6 feet on center
Highbush Blueberry (*Vaccinium corymbosum*)	Planted in clusters of 2-3, 5-6 feet on center
Meadowsweet (*Spiraea latifolia*)	Planted in clusters of 2-3, 5-6 feet on center
Bayberry (*Myrica pensylvanica*)	Planted in clusters of 2-3, 5-6 feet on center
Inkberry (*Ilex glabra*)	Planted in clusters of 2-3, 5-6 feet on center
Winterberry (*Ilex verticillata*)	Planted in clusters of 2-3, 5-6 feet on center

Cinnamon Fern (*Osmunda cinnamomea*)	Planted 18-24” on center in masses
Sensitive Fern (*Onoclea sensibilis*)	Planted 18-24” on center in masses
American Cranberry (*Vaccinium macrocarpon*)	Planted in large masses, 6-12” on center
Native Seed Mix	Apply as directed
Source: Summary of Wetland Resource Areas, HWG, April 2007.	

A wetland seed mix will be used to stabilize soils within the restoration area. It is anticipated that removal of existing paved areas will expose the underlying seed bank and rootstock which would contain additional species tolerant of the local ecological conditions. The presence of the underlying seed bank is anticipated to further lend to the successful generation of a wetland plant community within the restored wetland areas. However, certain invasive species, specifically purple loosestrife and *Phragmites*, are known to have exceptionally long seed dormancy capabilities, more so than most native species. Thus, exposing this seed bank may allow germination and establishment of non-native species over native, slower-growing vegetation. As part of the long-term monitoring of the restoration areas, particular attention will be paid to manage emerging non-native species to bolster the success of desired native species.

A commercially available native seed mix that contains native grasses and wildflower species similar to those observed within the existing wetland areas will be used. Species contained within the seed mix may include: switchgrass (*Panicum virgatum*), Virginia wild rye (*Elymus virginicus*), creeping red fescue (*Festuca rubra*), fox sedge (*Carex vulpinoidea*), creeping bentgrass (*Agrostis stolonifera*), soft rush (*Juncus effusus*), New England aster (*Aster novae-angliae*), grass-leaved goldenrod (*Euthamia graminifolia*), nodding bur marigold (*Bidens cernua*), green bulrush (*Scirpus atrovirens*), Joe-Pye weed (*Eupatorium maculatum*), boneset (*Eupatorium perfoliatum*), and blue vervain (*Verbena hastata*).

6.3 Anticipated Schedule

The CIP projects would be constructed over the period of the next ten years. Permitting for the projects would be structured to allow individual projects, or groups of projects to go forward as funding is available. Mitigation, in the form of restoration activities, will occur in conjunction with the implementation of projects, as they occur.

The Westerly Taxiway System Improvements, the reconstruction of the Easterly End of Partial Parallel Taxiway and the relocation of the East End Taxiway are anticipated to occur in 2010 to 2011. The improvements to the Access Road to Approach Lights (MALSF) and the construction of the Service Access Roads to AWOS and LES will be implemented in 2016. The installation of the Perimeter Fence is anticipated to occur in the year 2013. As previously mentioned, mitigation will be phased concurrently with the construction of each project.

6.4 Anticipated Time-Frame for Full-Functioning Restoration Areas

Wetland restoration areas are anticipated to fully function as low-growing herbaceous shrub-swamp wetlands two to five years following restoration activities (i.e., during the required monitoring period). Proper hydrologic conditions are pre-existing, and well-established mature patches of vegetation will be salvaged from impacted wetland areas as described, to facilitate the establishment of a well-developed wetland plant community within a shorter time frame than would be anticipated if the restoration area were reliant solely upon grow-in of nursery stock and seeding.

6.5 Monitoring and Maintenance

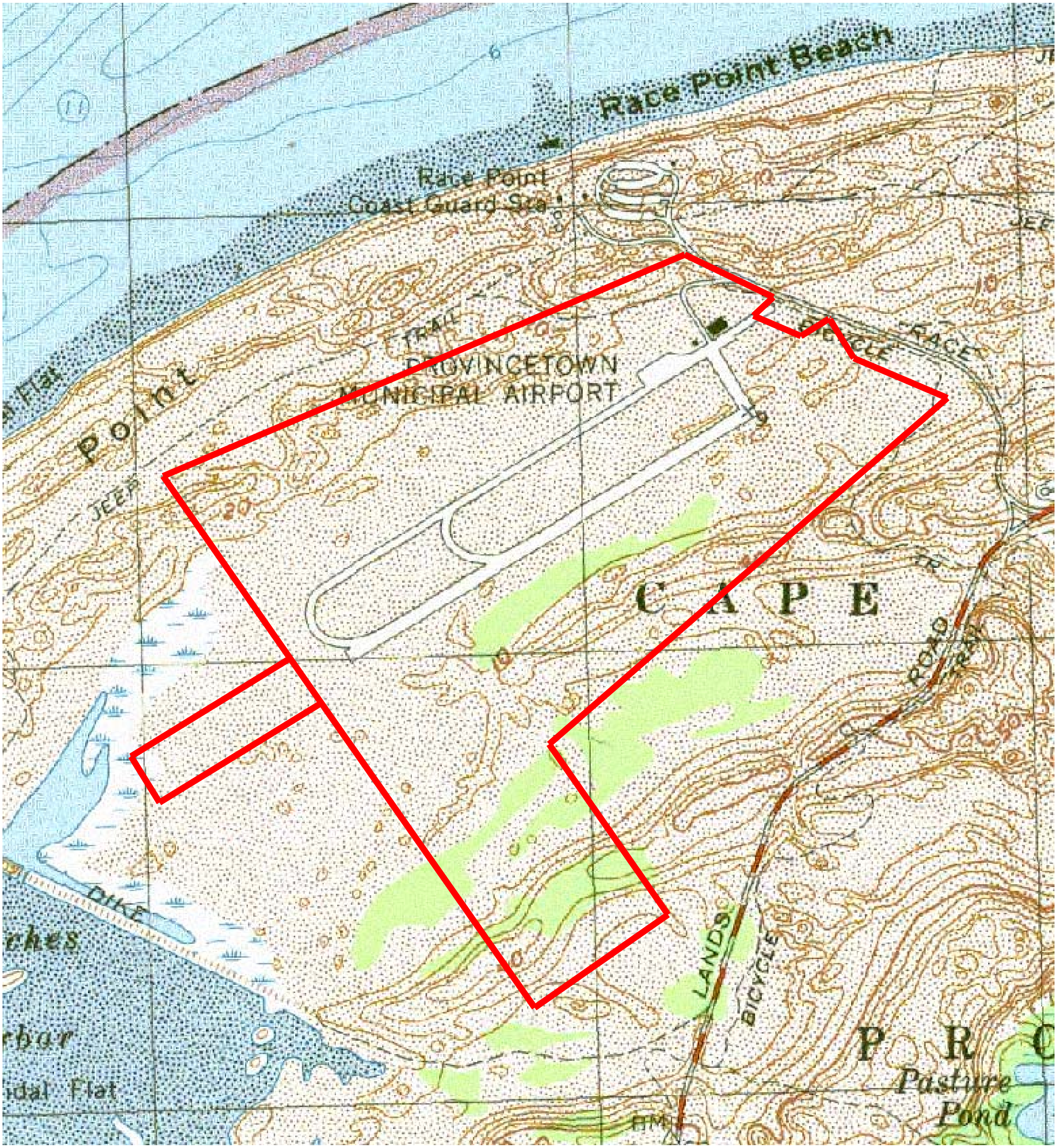
A qualified wetland scientist will oversee all aspects of the wetland restoration activities including installation of sedimentation control barriers, excavation of salvaged plant materials, removal of impervious surfaces and excavation of sub-base materials, installation of monitoring wells, soil augmentation, revegetation, and implementation of a monitoring plan. Wetland restoration areas will be monitored twice annually for five growing seasons to determine the relative success of the restored wetlands. Semi-annual site inspections conducted during late spring and late summer will include an assessment of the relative health and integrity of the salvaged vegetation and newly planted individuals, percent cover of vegetation, percent cover of wetland species, and general compliance with the performance standards under 310 CMR 10.55(4)(b)(1 through 7) and in accordance with Army Corps of Engineers (ACOE) Compensatory Mitigation Guidance. Randomly distributed vegetation study plots will be established within the wetland restoration areas to provide a consistent means of data collection used to determine the relative success of the wetland plant communities. Additional measures will be taken during construction and monitoring of wetland restoration areas to discourage establishment of invasive species within the newly disturbed soils.

Written reports detailing the findings of each monitoring event will be submitted on an annual basis for two years, to the Provincetown Conservation Commission, DEP, and the CCC, as well as other regulatory agencies overseeing the wetland restoration activities. Photographic documentation will be incorporated within the monitoring reports. Recommendations will be made for the replacement of dead or dying plants, and any additional remediation, as necessary. The monitoring program will include provisions that will ensure the implementation of any recommended actions to ensure the success of the restoration areas.

6.6 Funding

The compensatory mitigation activities will be funded through FAA and MassDOT grants that will also be providing the CIP project funding.

FIGURES



Legend

Data Source: MassGIS, Commonwealth of Massachusetts EOEA

🟥 Airport Lease Line

N

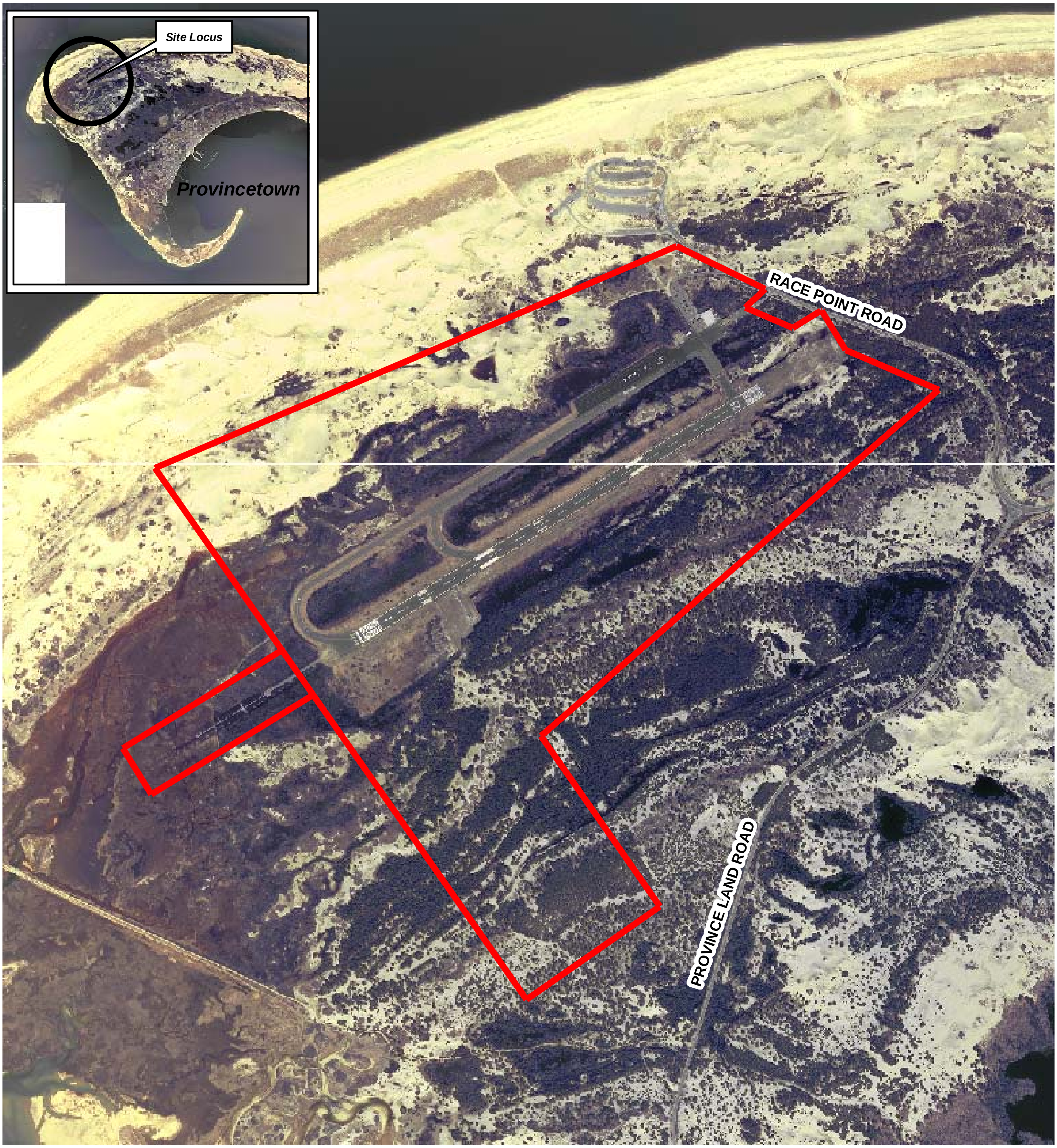
Feet

1,000

Horsley Witten Group
phone: 508-833-6600
www.horsleywitten.com

USGS Locus
Provincetown Municipal Airport
Provincetown, MA

Figure 1



Legend

**Data Source: MassGIS, Commonwealth of Massachusetts EOEA*

━ Airport Lease Line

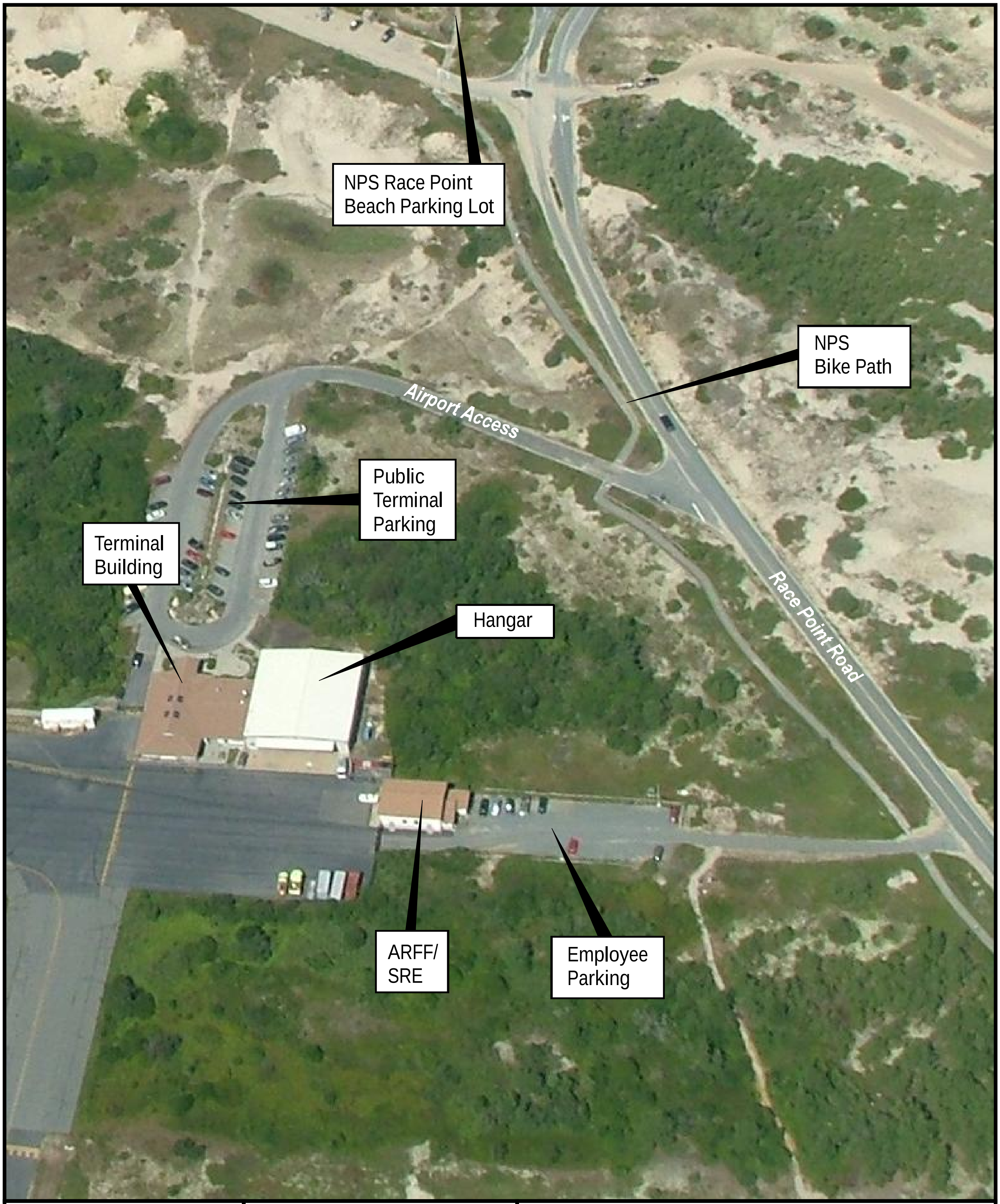
N

1,000 Feet

Horsley Witten Group
phone: 508-833-6600
www.horsleywitten.com

Aerial Photo
Provincetown Municipal Airport
Provincetown, MA

Figure 2



Prepared By:

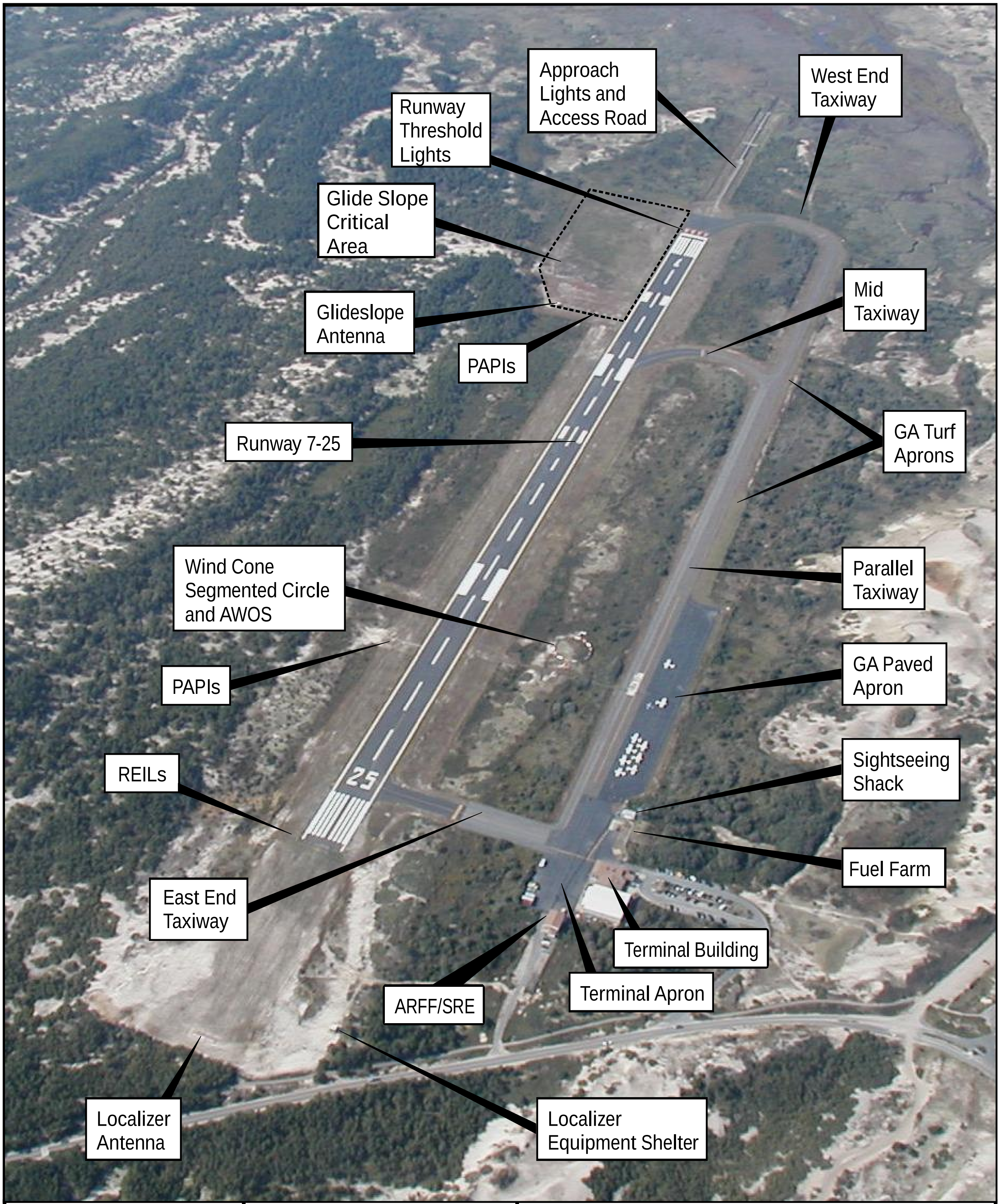
JACOBS

Source: Edwards and Kelcey 2005

Provincetown Municipal Airport
Capital Improvements Plan

Landside Facilities

Figure 3



Prepared By:

JACOBS

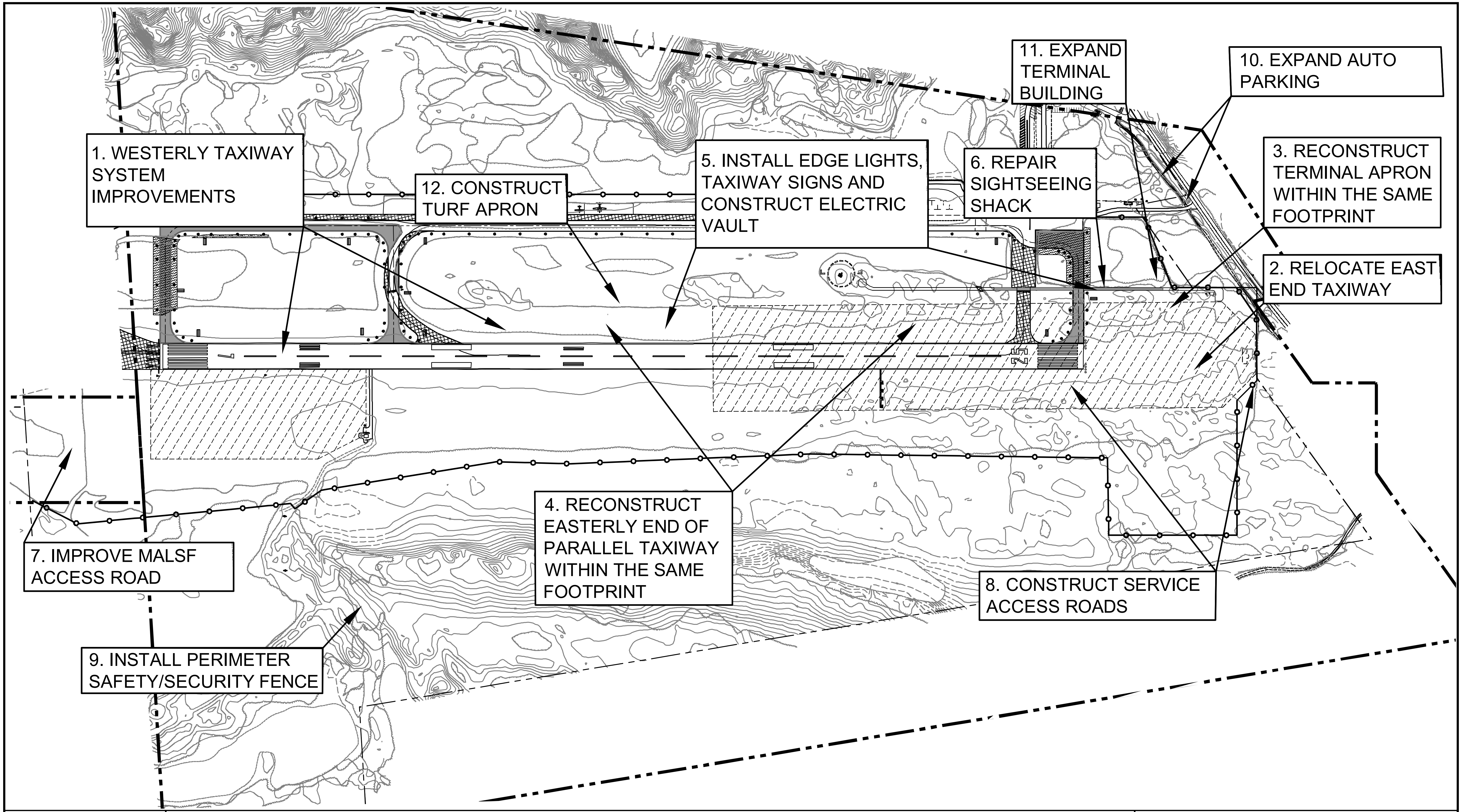
Note: See Glossary for definitions and descriptions of acronyms

Source: Edwards and Kelcey 2004

Provincetown Municipal Airport
Capital Improvements Plan

Airside Facilities

Figure 4


1. WESTERLY TAXIWAY SYSTEM IMPROVEMENTS
12. CONSTRUCT TURF APRON
5. INSTALL EDGE LIGHTS, TAXIWAY SIGNS AND CONSTRUCT ELECTRIC VAULT
6. REPAIR SIGHTSEEING SHACK
11. EXPAND TERMINAL BUILDING
10. EXPAND AUTO PARKING
3. RECONSTRUCT TERMINAL APRON WITHIN THE SAME FOOTPRINT
2. RELOCATE EAST END TAXIWAY
7. IMPROVE MALSF ACCESS ROAD
4. RECONSTRUCT EASTERLY END OF PARALLEL TAXIWAY WITHIN THE SAME FOOTPRINT
8. CONSTRUCT SERVICE ACCESS ROADS
9. INSTALL PERIMETER SAFETY/SECURITY FENCE
7
25
EXISTING IMPERVIOUS AREA TO BE REMOVED
PROPOSED IMPERVIOUS PAVED AREA
PROPOSED PERIMETER FENCE
GLIDE SLOPE AND LOCALIZER CRITICAL AREAS
PROPOSED WETLAND IMPACT AREA
EXISTING LEASE LINE
Approx. Scale: 1"=350'
0
175
350

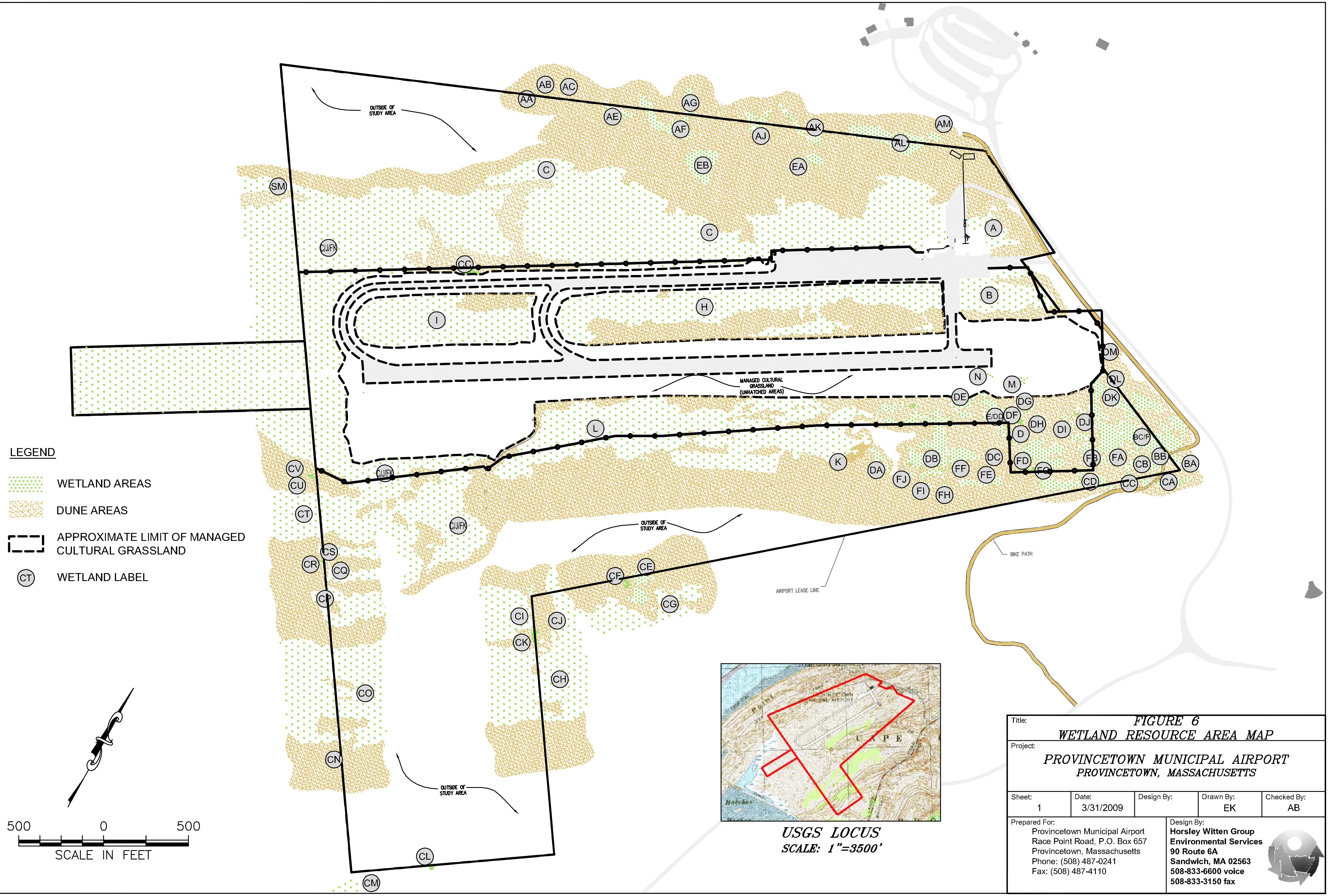
Prepared By:

JACOBS

Provincetown Municipal Airport
Capital Improvements Plan

PROJECT OVERVIEW

Figure 5



USGS LOCUS
SCALE: 1"=3500'

Title:
FIGURE 6
WETLAND RESOURCE AREA MAP

Project:
PROVINCETOWN MUNICIPAL AIRPORT
PROVINCETOWN, MASSACHUSETTS

Sheet:	Date:	Design By:	Drawn By:	Checked By:
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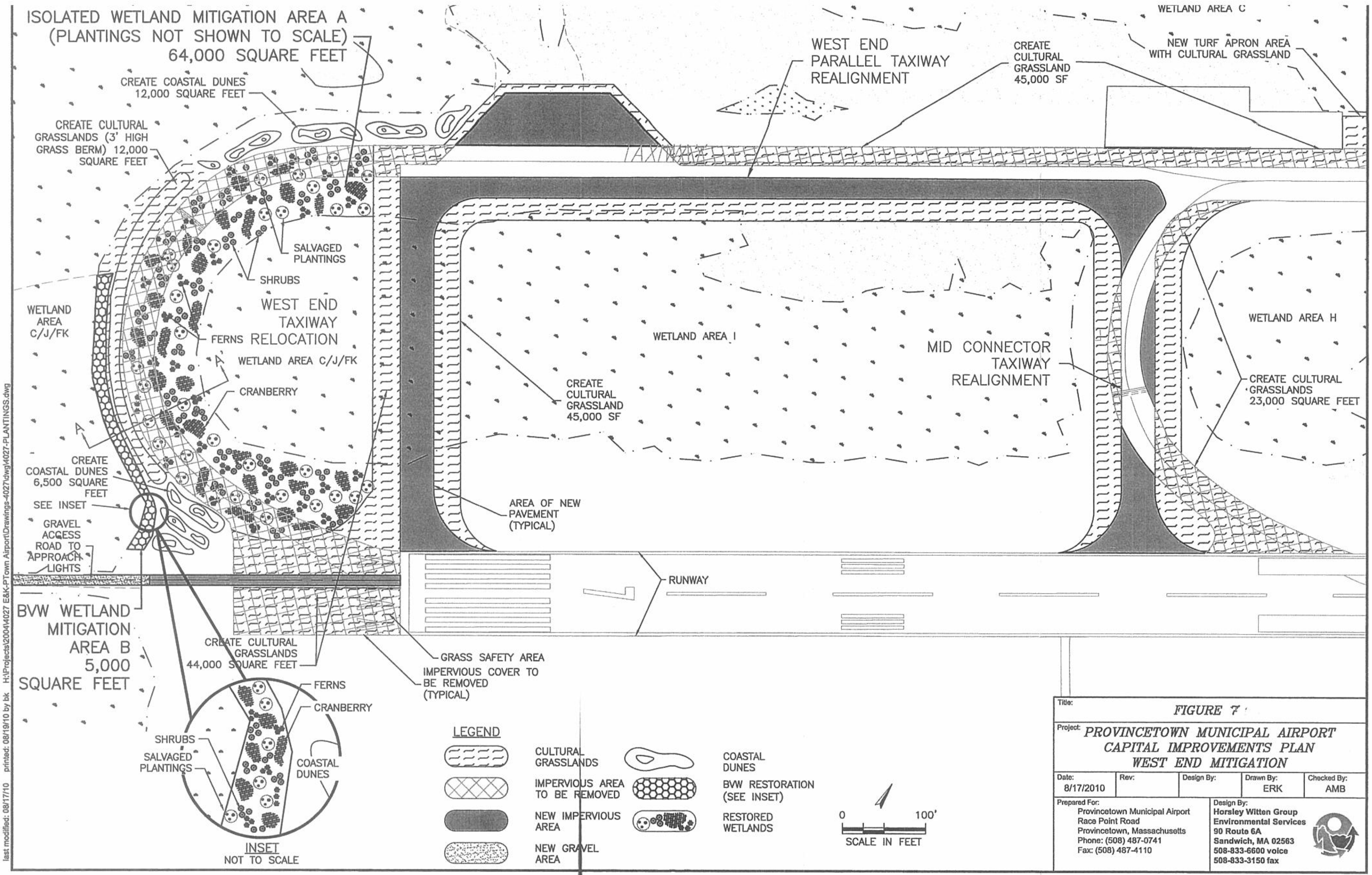
ISOLATED WETLAND MITIGATION AREA A
(PLANTINGS NOT SHOWN TO SCALE)
64,000 SQUARE FEET
CREATE COASTAL DUNES 12,000 SQUARE FEET
CREATE CULTURAL GRASSLANDS (3' HIGH GRASS BERM) 12,000 SQUARE FEET
WETLAND AREA C/J/FK
SALVAGED PLANTINGS
SHRUBS
WEST END TAXIWAY RELOCATION
FERNS
WETLAND AREA C/J/FK
CRANBERRY
A
A
CREATE COASTAL DUNES 6,500 SQUARE FEET
SEE INSET
GRAVEL ACCESS ROAD TO APPROACH LIGHTS
BVW WETLAND MITIGATION AREA B 5,000 SQUARE FEET
CREATE CULTURAL GRASSLANDS 44,000 SQUARE FEET
FERNS
CRANBERRY
SHRUBS
SALVAGED PLANTINGS
COASTAL DUNES
INSET
NOT TO SCALE
WEST END PARALLEL TAXIWAY REALIGNMENT
CREATE CULTURAL GRASSLAND 45,000 SF
WETLAND AREA C
NEW TURF APRON AREA WITH CULTURAL GRASSLAND
TAXIWAY
WETLAND AREA I
CREATE CULTURAL GRASSLAND 45,000 SF
MID CONNECTOR TAXIWAY REALIGNMENT
WETLAND AREA H
CREATE CULTURAL GRASSLANDS 23,000 SQUARE FEET
AREA OF NEW PAVEMENT (TYPICAL)
RUNWAY
7
GRASS SAFETY AREA
IMPERVIOUS COVER TO BE REMOVED (TYPICAL)
LEGEND
CULTURAL GRASSLANDS
IMPERVIOUS AREA TO BE REMOVED
NEW IMPERVIOUS AREA
NEW GRAVEL AREA
COASTAL DUNES
BVW RESTORATION (SEE INSET)
RESTORED WETLANDS
0
100'
SCALE IN FEET

Title: FIGURE 7

Project: PROVINCETOWN MUNICIPAL AIRPORT CAPITAL IMPROVEMENTS PLAN WEST END MITIGATION

Date:	Rev:	Design By:	Drawn By:	Checked By:
8/17/2010			ERK	AMB

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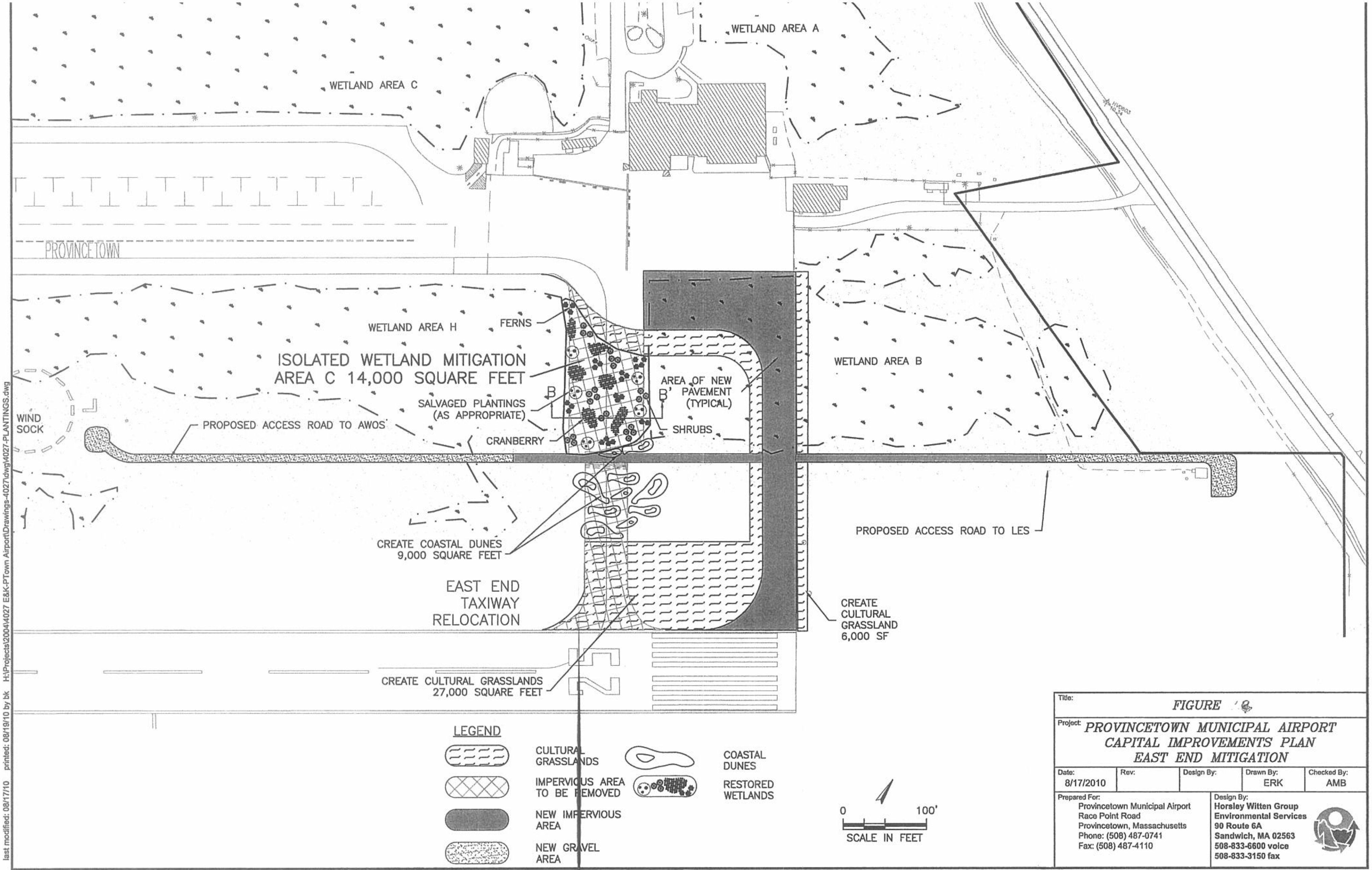
WETLAND AREA A
WETLAND AREA C
PROVINCETOWN
WETLAND AREA H
FERNS
ISOLATED WETLAND MITIGATION AREA C 14,000 SQUARE FEET
WETLAND AREA B
AREA OF NEW PAVEMENT (TYPICAL)
B
B'
SALVAGED PLANTINGS (AS APPROPRIATE)
SHRUBS
CRANBERRY
WIND SOCK
PROPOSED ACCESS ROAD TO AWOS
PROPOSED ACCESS ROAD TO LES
CREATE COASTAL DUNES 9,000 SQUARE FEET
EAST END TAXIWAY RELOCATION
CREATE CULTURAL GRASSLAND 6,000 SF
CREATE CULTURAL GRASSLANDS 27,000 SQUARE FEET
25
LEGEND
CULTURAL GRASSLANDS
IMPERVIOUS AREA TO BE REMOVED
NEW IMPERVIOUS AREA
NEW GRAVEL AREA
COASTAL DUNES
RESTORED WETLANDS
0
100'
SCALE IN FEET

Title: FIGURE [illegible]

Project: PROVINCETOWN MUNICIPAL AIRPORT
CAPITAL IMPROVEMENTS PLAN
EAST END MITIGATION

Date:	Rev:	Design By:	Drawn By:	Checked By:
8/17/2010			ERK	AMB

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TABLES

Table 1 Summary Of Impacts And Proposed Mitigation Measures For Preferred Alternatives For CIP Projects

	PROPOSED ALTERATION				**PROPOSED MITIGATION**				
Project	**Type of Resource Area**	**Area of Proposed Alteration (acres)**	**Area of Proposed Alteration (SF)**	**Description of Proposed Alteration**	**Description of Proposed Mitigation**	**Area of Proposed Mitigation**		**Net Change in Area (SF)**	
(1) Westerly TW System Improvements	Isolated Freshwater Wetland	0.66	28,655 (Wetland I)	Fill	On-site wetland restoration	Areas A & C			
(2) Relocate East End TW	Isolated Freshwater Wetland	0.65	28,300 (Wetland B)	Fill	On-site wetland restoration	Areas A & C			
(3) Reconstruct Terminal Apron	--		--	--	--	--		--	
(4) Reconstruct Easterly End of Partial Parallel TW	--		--	--	--	--		--	
(5) Install TW Lighting and Construct Electric Vault				--	--	--		--	
(6) Repair Sightseeing Shack	--		--	--	--	--		--	
(7) Improve Access Road to Approach Lights (MALSF)	Bordering Vegetated Wetland	0.02	960 (Wetland C/J/FK)	Fill	On-site wetland restoration	Area B			
(8) Construct Service Access Roads LES Road	--		--	--	--	--		--	
(8) Construct Service Access Roads AWOS Road	Isolated Freshwater Wetland	0.01	290 (Wetland H)	Fill	On-site wetland restoration	Areas A & C			
(9) Install Perimeter Fence (REVISED alternative) **"Concept 6"**	Bordering Vegetated Wetland	0.03 (direct) 0.2 (indirect) (Wetland C/J/FK)	1,152 (direct) 8,972 (indirect) (Wetland C/J/FK)	Direct Impact consists of Fill for Fence Post Installation or Vegetation Maintenance. Indirect/Secondary Impacts consists of Vegetation Maintenance within *Phragmites* or temporary construction-related impacts.	On-site wetland restoration	Area B			
	Isolated Freshwater Wetland	0.58 (direct) 0.09 (indirect)	25,648 (direct) 3,952 (indirect)		On-site wetland restoration	Areas A & C			
					On-site wetland enhancement	14.15 acres 616,350 SF (Wetland H & I)			
(10a) Expand Auto Parking (Phase 1) **(10b) Auto Parking** (Phase 2) **"Concept 4"**	--		--	--	--	--		--	
(11) Expand Terminal Building (Vertical Expansion)	--		--	--	--	--		--	
(12) Expand Turf Apron	--		--	--	--				
TOTAL DIRECT ALTERATION: (SF)				**TOTAL MITIGATION: (SF)**		**Acres**	**SF**	**Acres**	**SF**
	Isolated Freshwater Wetland	1.9	82,893		On-site restoration	1.8	78,000	**-0.1**	**-4,893 (~1:1)**
					On-site wetland enhancement (indirect impacts) (Wetland H & I)	14.15	616,350		**(~7.4:1)**
	Bordering Vegetated Wetland	0.05	2,112		On-site restoration	0.11	5,000	**+0.07**	**+2,888 (2.4:1)**

Table 2. Summary of wetland areas delineated at the Provincetown Municipal Airport, Provincetown, Massachusetts.

WETLAND AREA	CLASSIFICATION	FUNCTIONS AND VALUES
Salt Marsh SM	EEM	Protection of Marine Fisheries, Wildlife Habitat; Storm Damage Prevention; Groundwater and Water Quality
Wetland AA	PEM	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland AB	PEM	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland AC	PEM	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland AD	PSS/PEM	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland AE	PSS/PEM	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland AF	PSS/PEM	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland AG	PEM	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland AI	PSS/PEM	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland AJ	PEM	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland AK	PSS/PEM	Flood Storage/Flood Control; Groundwater and Water Quality
Wetland AL	PFO/PSS/PEM	Flood Storage/Flood Control; Groundwater and Water Quality
Wetland AM	PEM	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland BA	PSS/PEM/PFO	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland BB	PEM	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland BC	PSS/PEM/PFO	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland CA	PSS/PEM/PFO	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland CB	PSS/PEM/PFO	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland CC	PSS/PEM/PFO	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland CD	PSS/PEM/PFO	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland CE	PSS/PEM/PFO	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland CF	PSS/PEM/PFO	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland CG	PSS/PEM/PFO	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland CH	PSS/PEM/PFO	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland CI	PSS	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland CJ	PEM	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland CK	PEM	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland CL	PFO/PEM	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland CM	PSS/PEM/PFO	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland CN	PEM	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland CO	PSS/PEM/PFO	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland CP	PFO/PEM	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland CQ	PFO/PSS/PEM	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland CR	PEM	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland CS	PFO/PSS/PEM	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland CT	PFO/PSS/PEM	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland CU	PEM	Flood Storage/Flood Control; Groundwater and Water Quality
Wetland CV	PEM	Flood Storage/Flood Control; Groundwater and Water Quality
Wetland DA	PSS/PEM	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland DB/FG	PSS/PEM/PFO	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland DC	PEM	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland DD	PSS/PEM/PFO	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland DE	PSS/PEM	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland DF	PEM	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland DG	PEM	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland DH	PEM	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland DI	PEM	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland DJ	PEM	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland DK	PSS/PEM/PFO	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland DL	PSS/PEM/PFO	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland DM	PEM	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat

Table 2 (cont.)

WETLAND AREA	CLASSIFICATION	FUNCTIONS AND VALUES
Wetland EA	PSS	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland EB	PSS/PEM	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland FA	PFO	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland FB	PFO	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland FC	PFO	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland FD	PEM	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland FE	PFO	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland FF	PFO	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland FH	PEM/PFO	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland FI	PFO	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland FJ	PEM/PFO	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland A	PSS/PFO	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland B	PSS/PEM	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland C/J/FK	PSS/PEM/PFO	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland D	PFO	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland E	PFO/PSS	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland F	PEM	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland G	PSS	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland H	PSS	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland I	PSS	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland K	PEM	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland L	PFO/PSS	Flood Storage/Flood Control; Groundwater and Water Quality; Wildlife Habitat
Wetland M	PEM	Flood Storage/Flood Control; Groundwater and Water Quality
Wetland N	PEM	Flood Storage/Flood Control; Groundwater and Water Quality

KEY

Classification (Cowardin, et al., 1979)

PSS	Palustrine Scrub-Shrub wetland
PFO	Palustrine Forested habitat
PEM	Palustrine Emergent Marsh
EEM	Estuarine Emergent Marsh

9.6 Statement of Findings, E.O. 11988 Floodplain Management

STATEMENT OF FINDINGS FOR EXECUTIVE ORDER 11988
(Floodplain Management)

Provincetown Municipal Airport

Capital Improvement Program Projects
Provincetown, Massachusetts

Recommended:

____
George E. Price, Jr., Superintendent

Certification of Technical Adequacy and Servicewide Consistency:

____
_____, Chief, Water Resources Division

Approved:

____
______, Regional Director

National Park Service - Cape Cod National Seashore
STATEMENT OF FINDINGS
Pursuant to

Floodplain Management - E.O. 11988, D.O. 77-2
Provincetown Municipal Airport

1. INTRODUCTION

The Provincetown Municipal Airport Commission and the Federal Aviation Administration (FAA) have prepared an Environmental Assessment (EA) for the proposed Capital Improvement Program (CIP) of safety and facility improvements at Provincetown Municipal Airport (Airport). This EA will also be used by the National Park Service (NPS) to satisfy their National Environmental Policy Act (NEPA) requirements. Executive Order 11988 (E.O. #11988): Floodplain Management requires the NPS and other federal agencies to evaluate the likely impacts of action in floodplains.

This Statement of Findings (SOF) has been prepared in accordance with the guidelines in NPS Director's Order Number 77-2, *Floodplain Management*, and the accompanying Procedural Manual Number 77-2. The purpose of this Director's Order is to establish NPS polices, requirements, and standards for implementing Executive Order Number 11988. The objective of this Executive Order is to avoid, to the extent possible, the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development wherever there is a practicable alternative.

This Statement of Findings documents compliance status with these NPS floodplain management procedures and presents the rationale for undertaking a project with potential adverse impacts to floodplains and to document the anticipated effects.

1.1 Proposed Action

The Airport proposes the implementation of twelve CIP projects. The purpose of these projects is to enhance Airport safety and security and to enhance the efficiency of the Airport to more fully meet current and anticipated needs. Nine of the twelve proposed projects will provide operational safety and security improvements which will bring the Airport into compliance with current Federal Aviation Administration (FAA), Massachusetts Department of Transportation - Aeronautics Division (MassDOT), and Transportation Security Administration (TSA) safety and security design standards for an airport of this type.

The proposed CIP projects include:
1. Westerly Taxiway System Improvements (Realign West End, Mid Connector and a portion of the parallel Taxiways);
2. Relocate East End Taxiway;
3. Reconstruct Terminal Apron;
4. Reconstruct Easterly End of Partial Parallel Taxiway;
5. Install Taxiway Lighting and Construct Electric Vault;
6. Repair Sightseeing Shack;
7. Improve Access Road to Approach Light System;
8. Construct Service Access Roads to Localizer Equipment Shelter (LES) and to the Automated Weather Observation Station (AWOS);
9. Install a Perimeter Safety/Security Fence;
10. Expand Auto Parking;
11. Expand Terminal Building; and
12. Expand Turf Apron.

An overview of the proposed CIP projects is provided on Figure 1.

1.2 Site Description

1.2.1 Airport Facilities

The Airport is a primary service, public use airport with scheduled passenger service to and from Logan International Airport in Boston, Massachusetts. Located in Provincetown, Massachusetts, and situated on the northern tip of Cape Cod, the Airport is confined within the bounds of the Cape Cod National Seashore (CCNS), sited on approximately 322 acres of federally-owned land administered by the NPS (Figure 2). The Airport consists of developed airside and landside areas that are maintained for airport facilities and operations, as well as undeveloped areas that consist of coastal dunes, freshwater wetlands, and grasslands.

Airside Facilities

Airside facilities include a single runway (Runway 7-25), a taxiway system, aircraft parking aprons (ramps), an approach lighting system (Medium Intensity Approach Light System with Flashing lights or MALSF), navigational aids, and an Automated Weather Observation Station (AWOS). Runway 7-25, first paved in 1948, is currently 3,500 feet long and 100 feet wide with paved runway safety areas (RSAs). The taxiway system provides aircraft with direct routes between the terminal area and the runway, and include a partial parallel taxiway and three entrance taxiways (West-End, Mid-Connector, and East End Taxiways). Aircraft parking aprons include both paved and turf aprons to accommodate both commercial service and general aviation (GA) aircraft.

The Instrument Landing System (ILS) consists of a glide slope antenna, the glide slope critical area (a flat area maintained to bounce radio signals), a localizer antenna and its critical area, and an approach lighting system (MALSF) and its critical area. The Airport also has an on-field weather instrumentation (AWOS), located between Runway 7-25 and the parallel taxiway. Figure 3 depicts the locations of the airside facilities.

Landside Facilities

Landside facilities include a terminal building, aircraft hangar, an aircraft rescue and firefighting/snow removal equipment garage (ARFF/SRE), ground support facilities, the former administration building referred to as the Sightseeing Shack, and two auto parking areas. Figure 4 depicts the location of the Airport's landside facilities.

The terminal building is an approximately 4,800 square foot (SF) single story wooden structure, which provides passenger facilities, TSA screening areas, and a conference room. The Airport has a paved/gravel parking lot which provides 62-parking spaces for passengers and visitors, and a separate, 20-space employee gravel parking area located east of the terminal area.

The single hangar, which is attached to the passenger terminal building, is a 6,000 SF steel-framed structure that houses a large central bay for aircraft storage. The ARFF/SRE garage is approximately 40 feet wide by 80 feet long located on the east end of the terminal ramp, adjacent to the employee parking lot. The garage houses the ARFF vehicle and some SRE equipment.

Constructed in approximately 1948, the Sightseeing Shack is thought to be the original administration building, although it is no longer used for passenger waiting space. Currently this structure), airfield navigational aid electrical equipment, a Remote Communications Outlet (RCO) for radio signal repeater equipment, and the airfield electric lighting vault, as well as a small bathroom (now out of service).

There is one 10,000-gallon below ground tank housed immediately east of the Sightseeing Shack. The fuel tank is a double steel-walled underground storage tank (UST) with a leak detection monitoring system.

Finally, there are small sections of security fencing located at the east end of Runway 7-25, around the terminal apron and around the fueling station.

1.2.2 Natural Resources

Wetlands

The Cape Cod National Seashore supports a wide variety of marine and freshwater resources formed by the geological events that created Cape Cod, many of which are found within the Provincetown Municipal Airport lands. The geologic characteristics combined with a fluctuating, seasonally-high groundwater table results in seasonal saturation of the upper portion of the soil profile for significantly long periods of time during early portions of the growing season. Inundated and/or saturated soil conditions favor the establishment of hydrophyte-dominant plant communities and the deposition of organic material, which are typical of wetland habitats. Rainfall received during storm events also contributes to saturated soil and inundated land conditions.

Wetland habitats at the Airport include isolated freshwater wetlands dominated by grass and herbaceous species (Palustrine Emergent Wetlands or PEM); shrub-dominated isolated wetlands (Palustrine Scrub-Shrub Wetland or PSS); and isolated freshwater forested wetlands (Palustrine Forested Wetland or PFO), dominated by pitch pine (*Pinus rigida*). These isolated wetlands, ranging in size from a few hundred square feet to several acres in size, are associated with coastal interdunal swales, and are often separated from each other by low to moderate dune ridges closer to the airfield, and extensive higher dune ridges, oriented approximately parallel to the Airport runway, further out from the airfield. Isolated PSS wetlands also occur within the existing airfield, located between the existing taxiways and the runway, and separated from paved surfaces by managed grassland communities of varying width.

The shrub-dominant interdunal wetlands (PSS), which are the predominant type of wetland habitat at the Airport, have a non-tidal, seasonally or temporarily flooded water regime. The relatively dense shrub communities include plant species such as winterberry (*Ilex verticillata*), red maple (*Acer rubrum*), meadowsweet (*Spiraea latifolia*), highbush blueberry (*Vaccinium corymbosum*), northern bayberry (*Myrica pensylvanica*), red chokeberry (*Aronia* spp.), and American cranberry (*Vaccinium macrocarpon*), which often occurs in dense mats. Herbaceous plants observed frequently among the Airport wetlands include sphagnum moss (*Sphagnum* spp.), various sedges (*Carex* spp.), rushes (*Juncus* spp.), cinnamon fern (*Osmunda cinnamomea*), royal fern (*O. regalis*), and sensitive fern (*Onoclea sensibilis*), common reed (*Phragmites australis*), cattail (*Typha* sp.), woolgrass (*Scirpus cyperinus*), and various goldenrods (*Solidago* spp.).

Within the pitch pine-forested area between the runway and the steep coastal dune habitat to the southeast of the Airport managed areas, there is an extensive mosaic of additional interdunal forested wetland swales. Within these freshwater wetlands, pitch pine (*Pinus rigida*) has adapted to the seasonally saturated conditions and is considered a local wetland indicator species.

In the far western reaches of the Airport, there is a larger wetland system (Wetland C/J/FK) that transitions along a salinity gradient from a freshwater system (PEM-PSS-PFO) to a brackish system (primarily PEM, trending toward Estuarine Emergent Marsh or EEM) as groundwater seeps are met with the tidal influence of the Hatches Harbor estuarine system. Brackish portions of this wetland system are dominated by a non-native invasive species, common reed. Efforts to control and manage this invasive plant community were implemented in the early 2000s through the Hatches Harbor Restoration Project, and areas of *Phragmites* die-back with an emerging salt marsh community can be observed along the landward-reaches of the restored salt water regime influence. Wetland areas are identified on Figure 5.

Coastal Dunes

Surrounding the wetland areas and in an approximate parallel configuration to the shoreline and the Airport runway, are a series of coastal dunes. These dune habitats range from developing mounds of sands occupied by American beachgrass (*Ammophila breviligulata*) or other grass and herbaceous species, to extensive forested dune ridges that are stabilized with mature vegetation, including trees and shrubs.

The coastal dune habitats located along the lease line to the northwest of the airfield are mapped within the boundaries of the Race Point barrier beach system. Although the barrier beach system includes both primary and secondary dune habitats, there are no primary dunes located within the Airport lease area. Dunes north of the Airport are generally vegetated with American beachgrass and common hairgrass in open exposed areas. Occasionally, seaward-facing slopes (both primary and secondary dunes) are completely devoid of vegetation. Topography among these dunes varies widely from nearly flat to steeply sloping.

The coastal dune habitats located to the southeast of the airfield are secondary coastal dune habitats that are not within the barrier beach system. While the topography among these secondary dunes is equally varied, the more stable substrate of these areas supports a greater diversity of vegetative species, including trees and shrubs. It is in these areas that communities of Maritime Pitch Pine on Dunes and Maritime Shrubland occur to varying degrees. Coastal dune areas are indicated on Figure 5.

Cultural Grasslands

Cultural Grassland habitat, at the Airport includes primarily Cultural Grassland with incipient (or developing) Sandplain Grassland, and/or Sandplain Heathland. Cultural Grasslands result from the Airport's active mowing of the airfield's operational safety areas, in compliance with FAA regulations, and occur adjacent to the taxiway and runway (See Figure 5). These areas are mowed frequently to maintain runway and taxiway safety areas as well as the clear surfaces for navigational instrumentation. Sandplain Grasslands are open communities with grasses and occasional small shrubs, which are maintained naturally by fire and salt spray, and less frequently by vegetation pruning. Sandplain Heathland is open with shrubs and low-growing trees such as scrub oak (*Quercus ilicifolia*).

1.3 Floodplain Characterization

1.3.1 FEMA Designation

The Airport facilities are situated within a low-lying area between parallel dune ridges. According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (Community Panel 255218 00001 C; July 15, 1992), this low area is within the 100-year coastal floodzone/floodplain (Figure 6). The majority of the Airport facilities are located within Zone A2, elevation 10 feet above mean sea level, while the Runway 7 end and west end taxiway entrance lie within Zone A4, elevation 11 feet above mean sea level. Thus, such, the Airport facilities and the immediate surrounding environs are located within the stillwater coastal floodplain. The extreme western tip of the runway approach lights (MALSF) is located within Velocity Zone V4 (elevation 13 feet above mean sea level), an area of 100-year coastal flood with velocity (wave action) where base flood elevations and flood hazard factors have been determined by FEMA. The surrounding elevated dune system is located within areas of minimal flooding (Zone C).

1.3.2 Floodplain Background

In 1930, a dike was constructed across the Hatches Harbor salt marsh in an attempt to control salt marsh mosquitoes. Due to the dike restriction, approximately half of the 200 acres of salt marsh floodplain (base flood elevation 11 feet) was isolated from tidal flow. The Airport was constructed in the 1940s on land that was filled in behind the dike. The Airport's primary facilities are approximately one to two feet below the base flood elevations. The presence of the Hatches Harbor dike has likely influenced the ebb and flow of tides at the Airport facility. As this is a coastal floodplain, rising tide levels will inundate only those low-lying areas that are able to receive floodwaters.

The Hatches Harbor Restoration Project was instituted in the 1990s by the NPS in partnership with the Town of Provincetown to restore up to 90 acres of salt marsh behind the dike. Several local, state, and federal agencies approved the salt marsh restoration plan. During the winter of 1998-99, new culverts with adjustable tide gates were installed in the dike to gradually allow tidal flow into the marsh. Prior to the installation of the new culverts, and under a 1997 agreement between NPS and the Town of Provincetown, an earthen flood protection berm was constructed to avoid tidal flooding of the Instrument Landing System (ILS) reflectance area within the Airport. The NPS is responsible for its maintenance. While a breach in this earthen berm occurred in 2006, this has not resulted in flooding of the Airport ILS. A copy of the NPS letter dated July 20, 2007, is attached.

2. JUSTIFICATION FOR USE OF THE FLOODPLAIN

2.1 Location of Proposed Action

Given that the proposed CIP projects are intended to address safety and security deficiencies at the Airport, as well as to meet projected demand for Airport use, and that the Airport is located entirely within the coastal floodplain, the proposed projects must also logically occur within the coastal floodplain, in order to address the FAA, MassDOT, and TSA safety and security mandates.

2.2 Investigation of Alternative Sites

Each of the twelve project elements proposed under the CIP would occur within areas at the Airport that are within the100-year coastal floodplain, as the Airport itself is located within its entirety in the coastal floodplain. However, no work is proposed within the Velocity Zone. Given the purpose and need and the general nature of these proposed improvement projects at an existing airport facility, there is no feasible alternative location for implementing the proposed improvements at the Airport, such that the work could occur beyond the limits of the coastal floodplain. A complete alternatives analysis is provided in Section 3 of the FEIR/EA/Section 4(f), which describes the Preferred Alternative (Proposed Action), the No Action Alternative, and reasonable alternatives (if any) for each of the proposed project elements that would occur within the coastal floodplain. As defined in FAA Order 5050.4B, the Proposed Action is "*the solution the airport sponsor wishes to implement to solve the problem(s) it is facing*." Alternatives to the Proposed Action have been considered and evaluated. Of the twelve CIP projects, only the expansion of the Airport terminal building has an alternative that can avoid any further direct work within the coastal floodplain, aside from the No Action alternatives. A vertical expansion of the terminal building was selected as the Preferred Alternative.

3. DESCRIPTION OF SITE-SPECIFIC FLOOD RISK

As discussed above, due to the presence of the Hatches Harbor dike and, to a lesser degree, the earthen berm, significant flooding does not generally occur at the Airport outside of a major hurricane or coastal "nor'easter." In accordance with Procedural Manual 77-2: Floodplain Management, the flood hazard risk for activities at this location fall within Action Class I (100-year base floodplain), as the projects include "*location or construction of administrative, residential, warehouse, and maintenance buildings; non-excepted parking lots; or other man-made features which by their nature entice or require individuals to occupy the site, are prone to flood damage, or result in impacts to natural floodplain values. Class I Actions are subject to the floodplain policies and procedures if they lie within the 100-year floodplain (the Base Floodplain).*" The Class I designation is defined as a one percent chance of flooding during one year with a 39 percent chance of flooding during fifty years.

The Town of Provincetown, which owns and operates the Airport, has an emergency preparedness plan for the entire municipality, with specific provisions for the Airport. This plan was developed in cooperation with the Massachusetts Emergency Management Agency (MEMA). The Provincetown Emergency Management Agency is charged with the responsibility to develop and implement this Comprehensive Emergency Management (CEM), which addresses preparedness and response to all risks, including man-caused emergencies and natural disasters, as well as mitigation and recovery phases of the CEM (http://www.provincetown-ma.gov/safety.html).

Coastal communities are subject to storm surge, flooding, and wind damage from hurricanes and strong coastal storms. Per the CEM, "*Of all emergencies/disasters that can affect Massachusetts, hurricanes provide the most lead warning time. Even at the 'hurricane watch' stage, the storm could be hundreds of miles away from the Massachusetts coast. MEMA assumes 'standby status' when a hurricane's location is determined to be 35 North Latitude, (Cape Hatteras), unless the storm is moving unusually fast which may necessitate standby at an earlier time. When the hurricane has reached 40 North Latitude, (Long Island), MEMA assumes 'alert'* *status and the decision may be made by the Governor or the local head of government to recommend evacuation of areas that the storm is likely to strike."*

The CEM plan addresses emergency situations in which the actions of many different agencies must be coordinated. This major coordination effort differs from those emergencies handled on a daily basis by local fire, law enforcement, and medical service personnel. The CEM is structured in six parts: Part I deals with the Basic Plan; Part II deals with Emergency Response Organizations; Part III deals with Emergency Management Processes and Protective Procedures; Part IV deals with specific Hazard/Emergencies/Disasters. Part V deals with Hazardous Materials. Part VI is the Terrorism Incident Response Plan. This includes the necessary actions and procedures to be taken by Airport personnel in the event of a major storm event, such as a hurricane, as well as other emergency situation to ensure human health and safety as well as protection of property.

Loss of flood storage is generally not an issue in the coastal environment. The flood risk for the Airport facilities or the Airport personnel or visitors to the CCNS would not increase as a result of implementing proposed CIP projects. Activities that would directly impact floodplains include the taxiway projects, access roadways to the LES and AWOS, and the fence. These project elements will occur immediately adjacent to the existing Airport facilities, and will allow for abandonment and restoration of previously paved areas, and thus yielding a reduction in impervious surface within the coastal floodplain. The No Build Alternative for each of the proposed CIP projects would not result in a reduction of impervious surfaces. Moreover, proposed improvements and subsequent reduction in impervious surfaces will provide opportunities for freshwater wetland restoration, which, upon successful restoration, will mitigate for any loss of local flood storage capacity at the Airport, and potentially provide for slightly greater flood storage capacity, although the effects would be negligible in the coastal floodplain.

4. DESCRIPTION OF FLOOD MITIGATION

Cumulatively, implementation of the Preferred Alternatives would result in alterations to approximately 2.34 acres (101,915 SF) of coastal floodplain, which involves direct alterations to freshwater wetlands and coastal dune habitats, all of which also occur within the coastal floodplain. Aside from the No Action alternatives, of the twelve CIP project elements proposed at the Airport, only one project, the proposed expansion of the Airport terminal building, has an available alternative that would result in less direct impact within the coastal floodplain. The vertical expansion of the terminal building has been selected as the Preferred Alternative. All remaining projects must logically be sited within the coastal floodplain in order to meet the purpose and need of each project element.

Minor to negligible, short-term, direct, adverse impacts will occur to the coastal floodplain as a result of implementing the Preferred Alternatives for the Airport CIP projects during construction, specifically for the reconstruction and/or realignment of the of the taxiways, installation of the access roadways, and installation of the proposed safety/security fence. Flood storage capacity will be compensated by the proposed wetland mitigation areas upon successful mitigation.

Proposed mitigation measures, which involve removal of impervious surfaces and restoration or creation of natural habitats (wetland and coastal dune mitigation areas) and a slight increase in the amount of grassland habitat at the Airport, will result in a net gain of vegetated areas. Ultimately, no additional coastal floodplain will be impacted, and there will be a net reduction of approximately 0.65 acres (28,086 SF) of existing impervious surface at the Airport, which may provide some additional temporary flood storage during a major flooding event.

Mitigation also includes past mitigation efforts provided through the Hatches Harbor Saltmarsh Restoration Project ("Hatches Harbor Project") in accordance with the April 28, 1997 Memorandum of Understanding between the NPS and the Town of Provincetown and as reiterated in the November 5, 2010, letter from NPS to FAA. The Hatches Harbor Project, implemented in the early 2000s, included a substantial restoration effort of salt marsh and freshwater wetland habitat. As such, the Airport will apply mitigation credits granted through the participation in the Hatches Harbor Salt Marsh Restoration Project. Previously, it was thought that additional off-site mitigation would be necessary in order to satisfy the NPS requirements for resource impacts. However, in accordance with the April 28, 1997 MOU between the Town and NPS, and reiterated in the recent letter from NPS (dated November 5, 2010), implementation of the Hatches Harbor Salt Marsh Restoration Project was to result in 60 to 90 acres of wetland habitat restoration, and the 1997 MOU established that the mitigation provided by the implementation of the Hatches Harbor Salt Marsh Restoration Project "*will be classified as mitigation for the wetland impacts of required present AND FUTURE airport safety improvements*." In their November 5, 2010 letter, NPS/CCNS "*agrees that FAA's contribution to salt marsh restoration at Hatches Harbor can be applied as off-site mitigation for activities covered in the Current Capital Improvements Plan.*"

No long-term adverse impacts on the flood storage capacity relative to the ability of these low-lying areas to temporarily retain and release coastal waters during and following a flooding event at the Airport or within the surrounding CCNS lands are anticipated.

4.1 Hazard Reduction Plans

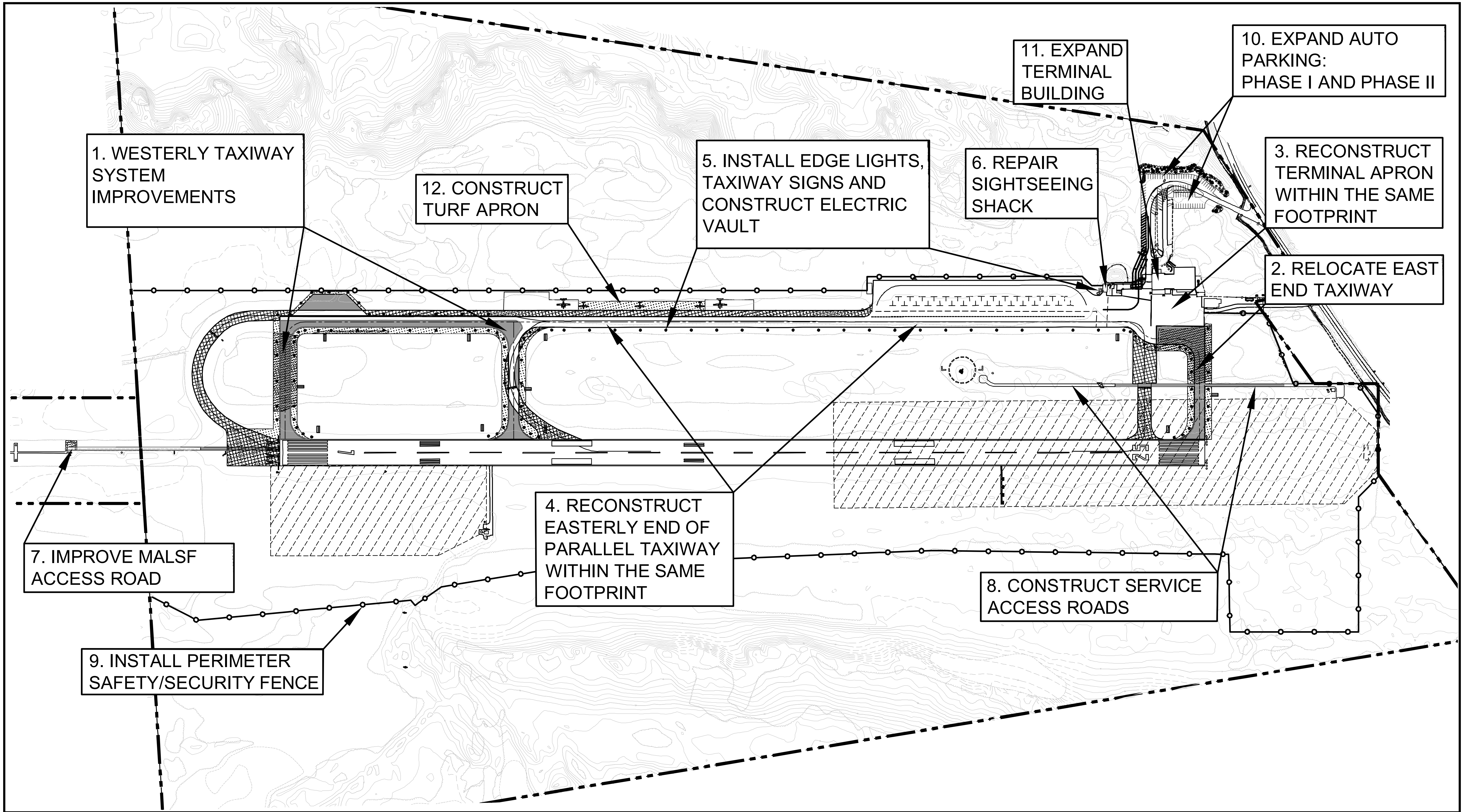
As noted above, the Town of Provincetown and consequently, the Airport, has a contingency plan (CEM) in place, outlining the necessary actions and procedures to be taken by Airport personnel in the event of a major storm. The Preferred Alternatives for the CIP projects are not anticipated to have any adverse impact on the ability of the coastal floodplain to provide continued protection from storm damage and coastal flooding, and the reduction of impervious surfaces that will occur as a result of the implementation of certain CIP preferred alternatives may contribute to these functions and values. There is no anticipated increase in the flood hazard at the Airport as a result of the proposed project.

4.2 Structural Design

Any new construction will adhere to local building codes for work within the 100-year floodplain. The existing structures and facilities are designed to be consistent with the standards and criteria of the National Flood Insurance Program (44 CFR Part 60), as well as any state and local building codes.

5. SUMMARY

Proposed CIP projects at the Provincetown Municipal Airport are designed to address safety and security needs at the Airport and to address the efficiency of the Airport to more fully meet current and anticipated demand of its use. The Airport is situated wholly within the 100-year coastal floodplain, and as a result, all proposed projects associated with these infrastructure improvements, with the exception of the vertical expansion of the terminal building, must be logistically sited within the floodplain by design. No alternative sites outside of the coastal floodplain exist that could reduce potentially hazardous conditions at the Airport beyond those that currently exist. Mitigation and compliance with regulations and policies to prevent impacts to water quality, floodplain values, and loss of property or human life would be strictly adhered to during and following construction. Individual permits with other federal and cooperating state, regional, and local agencies would be obtained prior to construction activities. No long-term adverse impacts would occur as a result of implementing the proposed CIP projects.


1. WESTERLY TAXIWAY SYSTEM IMPROVEMENTS
12. CONSTRUCT TURF APRON
5. INSTALL EDGE LIGHTS, TAXIWAY SIGNS AND CONSTRUCT ELECTRIC VAULT
6. REPAIR SIGHTSEEING SHACK
11. EXPAND TERMINAL BUILDING
10. EXPAND AUTO PARKING: PHASE I AND PHASE II
3. RECONSTRUCT TERMINAL APRON WITHIN THE SAME FOOTPRINT
2. RELOCATE EAST END TAXIWAY
7. IMPROVE MALSF ACCESS ROAD
4. RECONSTRUCT EASTERLY END OF PARALLEL TAXIWAY WITHIN THE SAME FOOTPRINT
8. CONSTRUCT SERVICE ACCESS ROADS
9. INSTALL PERIMETER SAFETY/SECURITY FENCE

Prepared By:

JACOBS

- ▦ EXISTING IMPERVIOUS AREA TO BE REMOVED
- ● PROPOSED IMPERVIOUS PAVED AREA
- ▒ PROPOSED WETLAND IMPACT AREA
- -o——o- PROPOSED PERIMETER FENCE
- — · · — EXISTING LEASE LINE
- ░ PROPOSED CULTURAL GRASSLAND
- ▨ GLIDE SLOPE AND LOCALIZER CRITICAL AREAS

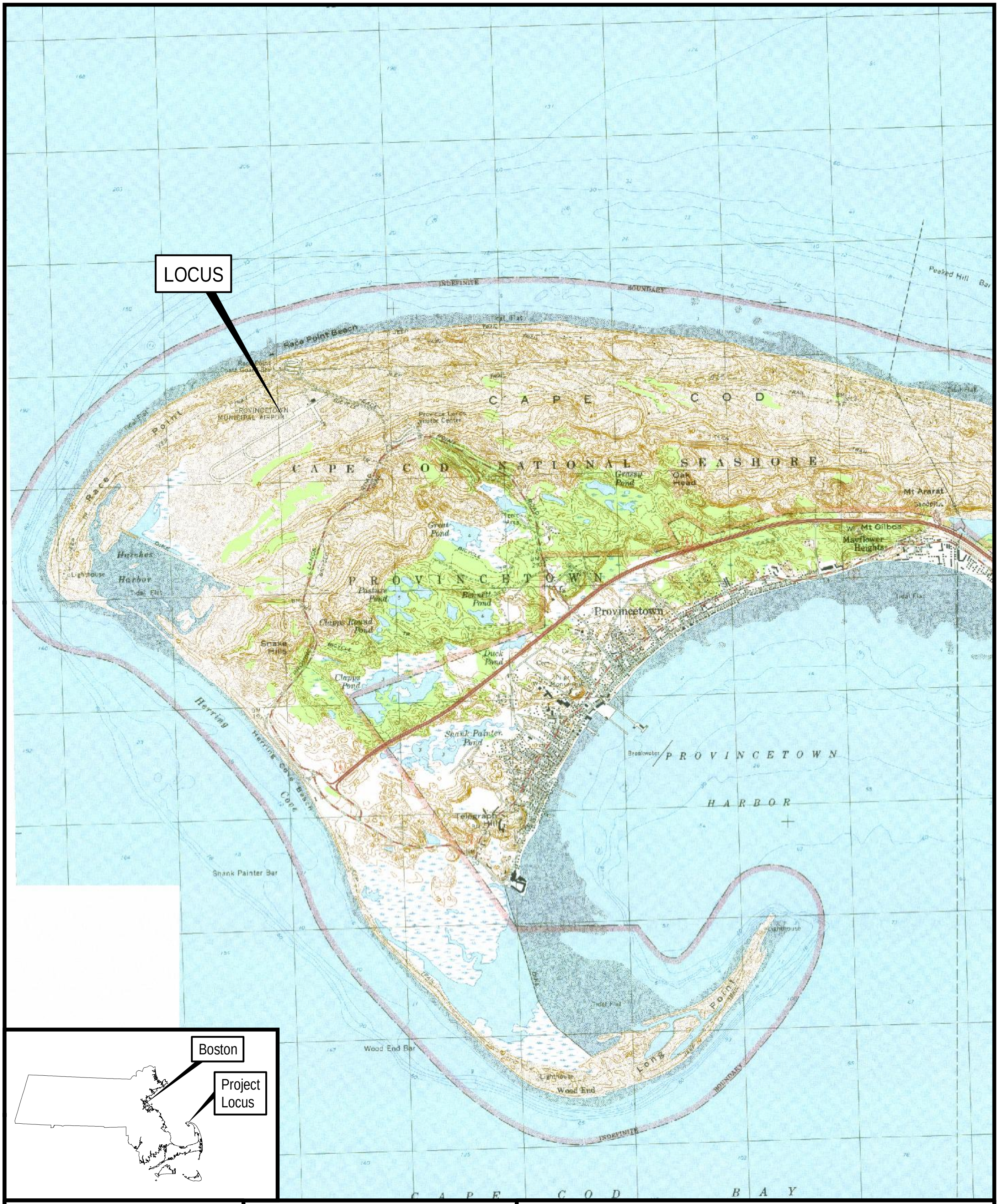
GENERAL NOTE:
SEE FIGURES IN SECTION 6 FOR PROJECT DETAILS.

Approx. Scale: 1"=350'
0 175 350

Provincetown Municipal Airport
Capital Improvements Plan

PROJECT OVERVIEW

Figure 1



Prepared By:

JACOBS™

Approx. Scale in Feet

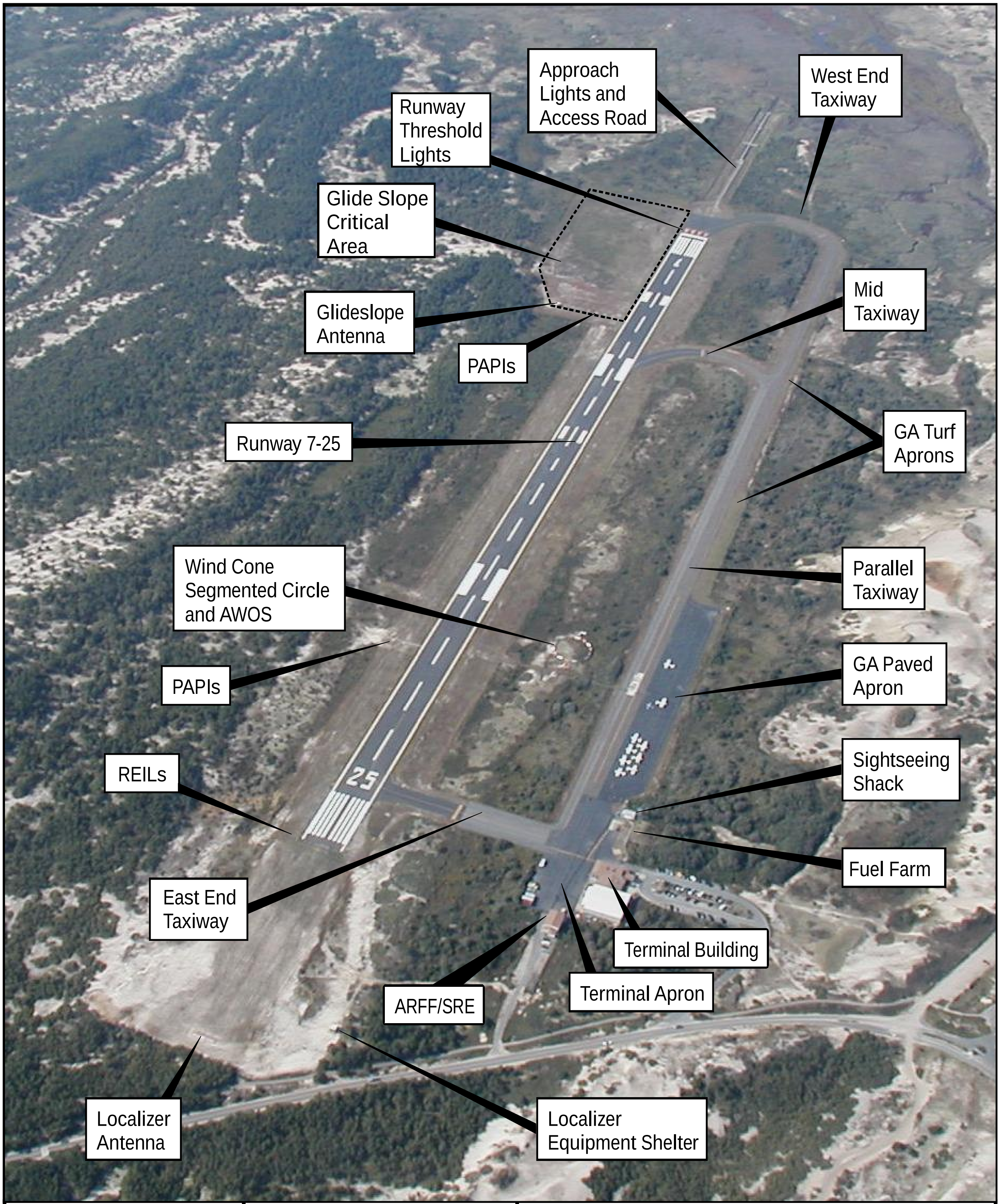
0 4,000

Data compiled from the following source:
MassGIS, Commonwealth of Mass. EOEA

Provincetown Municipal Airport
Capital Improvements Plan

LOCUS MAP

Figure 2



Prepared By:

JACOBS™

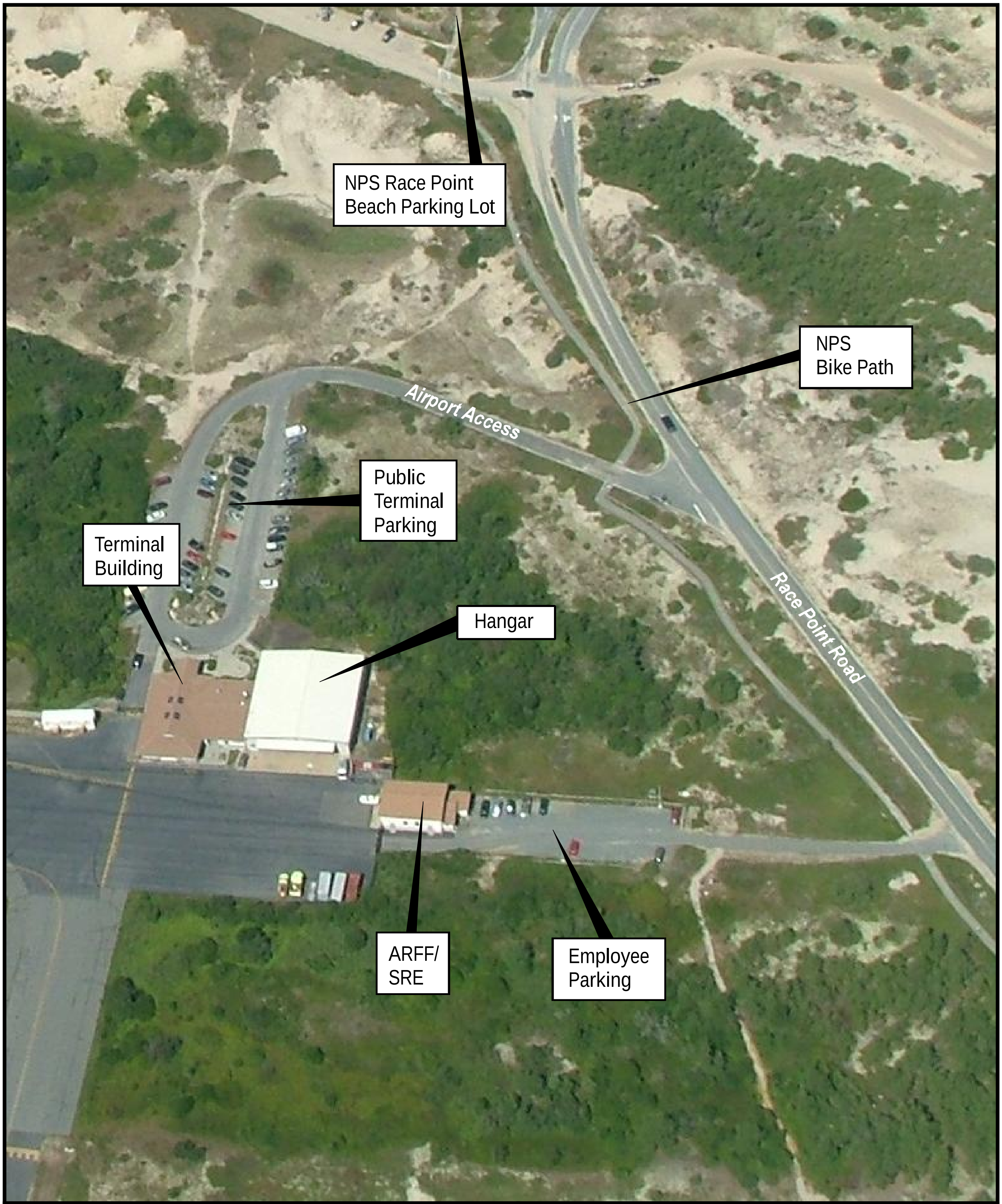
Note: See Glossary for definitions and descriptions of acronyms

Source: Edwards and Kelcey 2004

Provincetown Municipal Airport
Capital Improvements Plan

Airside Facilities

Figure 3



Prepared By:

JACOBS

Source: Edwards and Kelcey 2005

Provincetown Municipal Airport
Capital Improvements Plan

Landside Facilities

Figure 4

last modified: 12/09/09 printed: 12/10/09 by bk H:\Projects\2004\4027 E&K-PTown Airport\Drawings-4027\dwg\4027 WETLANDS 2006.dwg

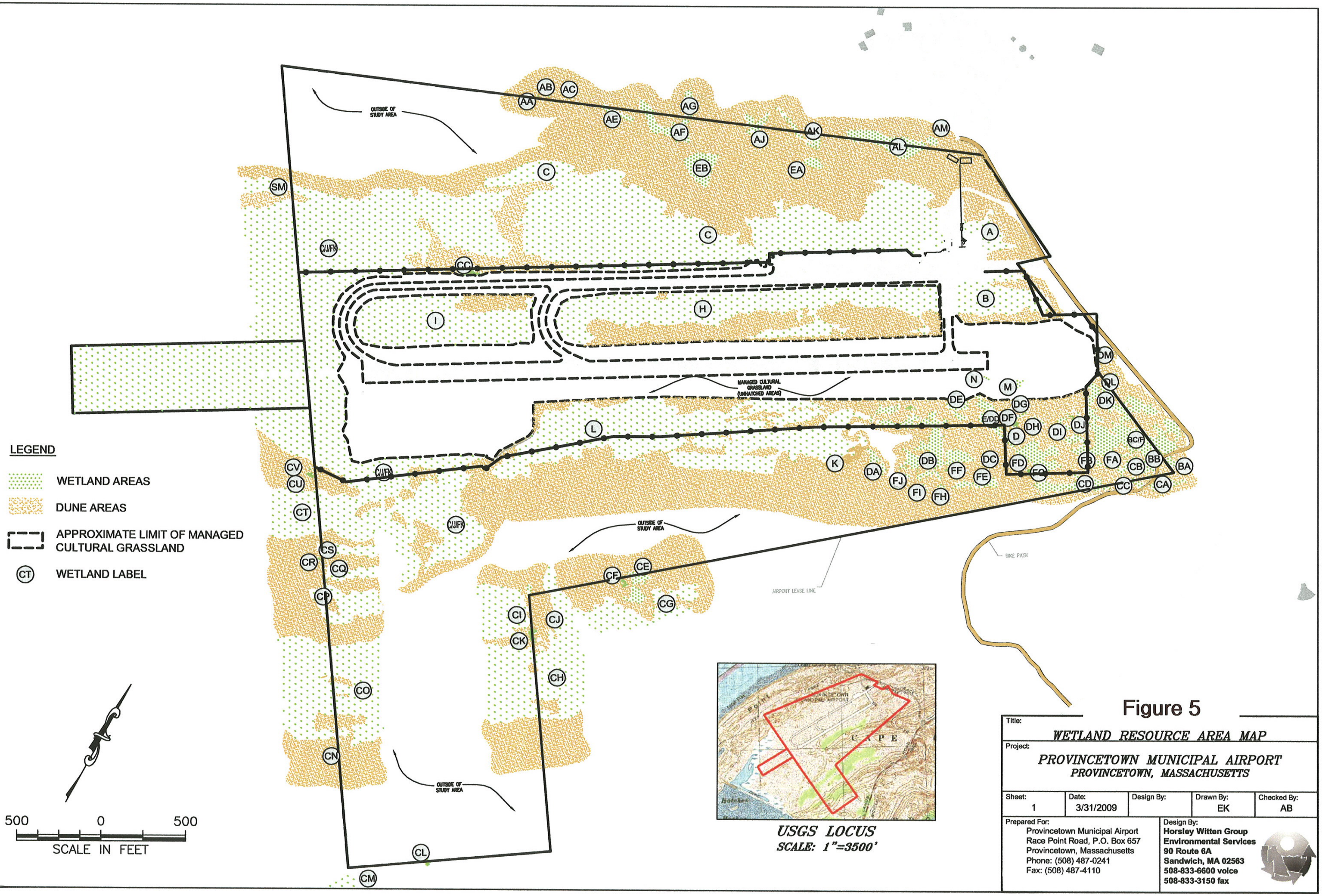


Figure 5

Title:

WETLAND RESOURCE AREA MAP

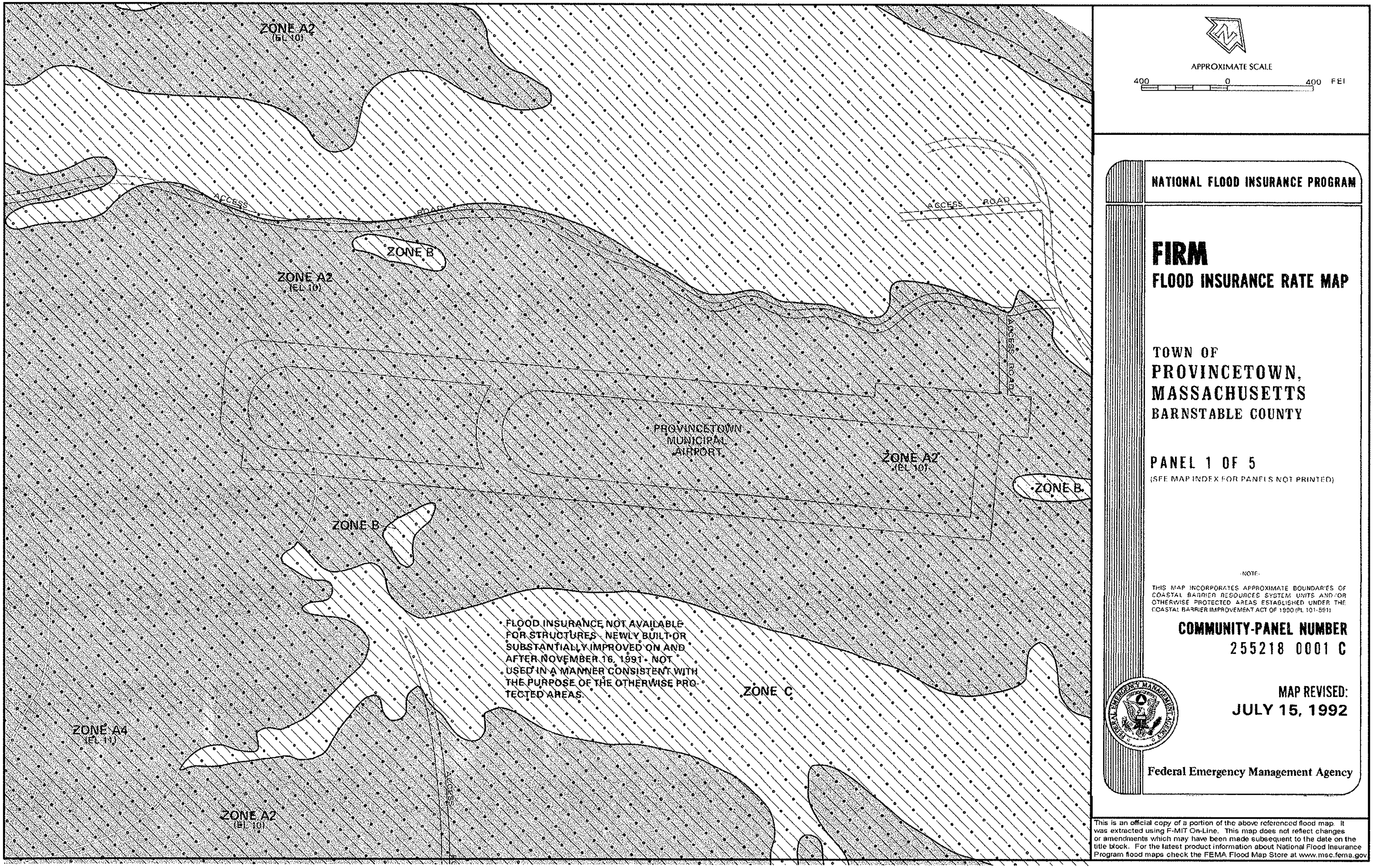
Project:

PROVINCETOWN MUNICIPAL AIRPORT
PROVINCETOWN, MASSACHUSETTS

Sheet:	Date:	Design By:	Drawn By:	Checked By:
1	3/31/2009		EK	AB

Prepared For:
Provincetown Municipal Airport
Race Point Road, P.O. Box 657
Provincetown, Massachusetts
Phone: (508) 487-0241
Fax: (508) 487-4110

Design By:
Horsley Witten Group
Environmental Services
90 Route 6A
Sandwich, MA 02563
508-833-6600 voice
508-833-3150 fax



FLOOD INSURANCE NOT AVAILABLE FOR STRUCTURES NEWLY BUILT OR SUBSTANTIALLY IMPROVED ON AND AFTER NOVEMBER 16, 1991 • NOT USED IN A MANNER CONSISTENT WITH THE PURPOSE OF THE OTHERWISE PROTECTED AREAS.

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

TOWN OF
PROVINCETOWN,
MASSACHUSETTS
BARNSTABLE COUNTY

PANEL 1 OF 5
(SEE MAP INDEX FOR PANELS NOT PRINTED)

-NOTE-

THIS MAP INCORPORATES APPROXIMATE BOUNDARIES OF COASTAL BARRIER RESOURCES SYSTEM UNITS AND/OR OTHERWISE PROTECTED AREAS ESTABLISHED UNDER THE COASTAL BARRIER IMPROVEMENT ACT OF 1990 (PL 101-591)

COMMUNITY-PANEL NUMBER
255218 0001 C

MAP REVISED:
JULY 15, 1992

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

Figure 6

March 3, 1849

United States Department of the Interior

NATIONAL PARK SERVICE
Cape Cod National Seashore
99 Marconi Site Road
Wellfleet, MA 02667
508.349.3785
508.349.9052 Fax

IN REPLY REFER TO:
N1619

July 20, 2007

Provincetown Airport Commission
Michael Leger, Chairman
Race Point Road,
Provincetown, MA 02657

Subject: Efficacy of flood protection berm seaward of Runway 7, Provincetown Airport, Provincetown, Massachusetts

Dear Commissioners:

This is to transmit water-level data collected by my staff this spring, in cooperation with Airport Manager Butch Lisenby, to assess the effects of a breach in the flood-protection berm seaward of Runway 7 on surface water levels. You will recall that under the 1997 agreement between the Town and the Seashore for the Hatches Harbor Salt Marsh Restoration Project, the NPS took responsibility for building and maintaining this berm to avoid tidal flooding of the ILS reflectance area.

The earthen berm was damaged and repaired during the construction of the catwalk associated with a general upgrade of the ILS system several years ago. Unfortunately, the contractor who installed the catwalk also removed peat that supported and stabilized the original earthen berm built by NPS. As a result, that portion of the berm that passed under the catwalk was prone to slumping and consequent overtopping and erosion by high tides.

According to Mr. Lisenby, a major breach in the berm developed last summer; our staff first observed it last fall. The issue was discussed at the annual meeting of the Hatches Harbor Review Committee meeting in February (minutes attached), where it was decided to allow the breach to remain open until the Airport and we could monitor the effects on surface water flooding near the reflectance area.

We used an automated data logger to obtain water-level data in a well at the northeast corner of the wetland just seaward of Runway 7 (Figure1). The logger was deployed from 12 March to 19 April, and again from 8 May to 17 June 2007. The elevation (m-NAVD88) of the well-casing measuring point was determined by differential leveling from a bronze disk east of Runway 7 (northing 4658198; easting 398517; elevation= 1.695 determined by RTK GPS). Thus water level and land surface data for both deployments are presented relative to NAVD88 in Figures 2.

To summarize, the breach in the earthen berm has not resulted in flooding of the airport reflectance area. Fortuitously, the situation was given an extreme test in mid-April when a severe northeast storm hit the Cape during a period of spring tides. Precipitation exceeded 2.6 inches and tide heights (recorded by the Boston NOAA tide station) reached 14 feet MLLW. Even during this extreme event, surface water from Hatches Harbor did not reach the reflectance area (Fig. 2).

We have shared and discussed these data with Mr. Lisenby, who suggests that airport management may be satisfied that the earthen berm is no longer necessary to protect the airport instrument landing system. Therefore, unless there is further discussion, NPS will not attempt to repair the berm breach.

Finally, I believe that this small collaborative project serves as an excellent example of how Seashore and Airport managers have been able to work together so well over the past ten years to achieve both flood protection for the airport and salt-marsh restoration at Hatches Harbor.

Sincerely,

George E. Price, Jr.
Superintendent

Enclosures:

Figure 1. Relative locations of earthen berm, ILS reflectance area, and NPS observation well used to monitor surface water levels adjacent to Runway 7, Provincetown Airport.
Figure 2. Water levels behind the breached earthen berm seaward of Provincetown Airport Runway 7, relative to elevations of the ILS reflectance area.
Minutes of February 27, 2007, Hatches Harbor Technical Review Committee meeting

cc:
Sharon Lynn, Town Manager, Provincetown
Richard Doucette, Federal Aviation Administration
Mathew DeSorbo, Massachusetts Aeronautics Commission
Butch Lisenby, Provincetown Airport
Jim Mahala, Massachusetts Department of Environmental Protection

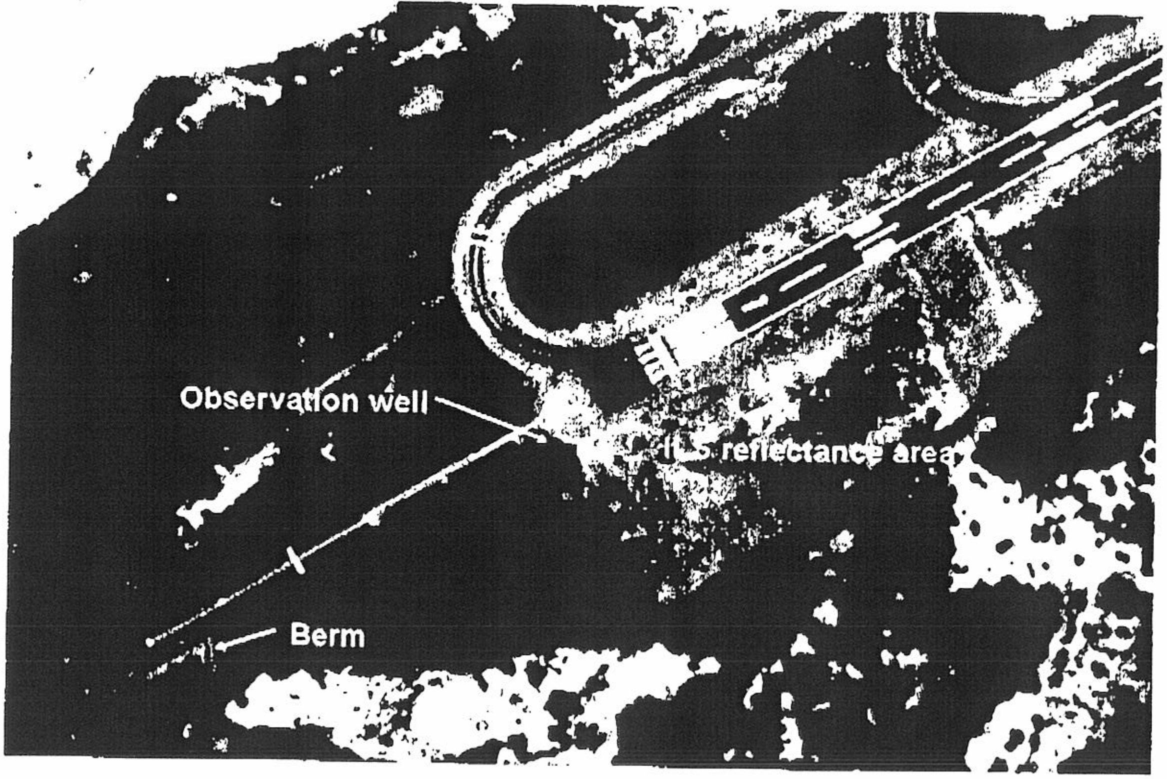


Figure 1. Relative locations of earthen berm, ILS reflectance area, and NPS observation well used to monitor surface water levels adjacent to Runway 7, Provincetown Airport.

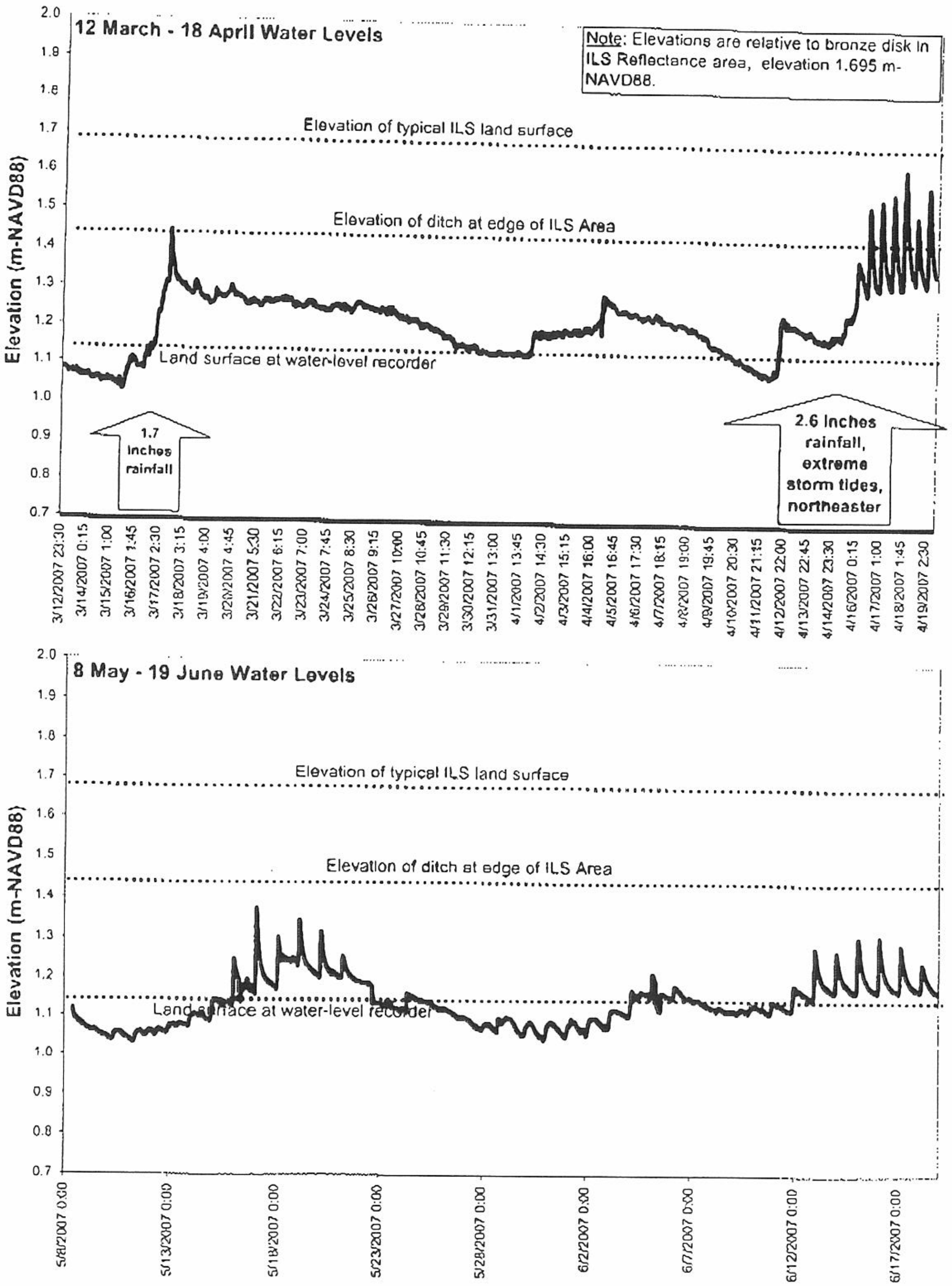


Figure 2. Water levels behind the breached earthen berm seaward of Provincetown Airport Runway 7, relative to elevations of the ILS reflectance area.

27 February 2007

Minutes of Hatches Harbor Technical Review Committee meeting

Attendees: Stephen Smith (NPS), Butch Lisenby (Provincetown Airport), Evan Gwilliam (NPS), Richard Doucette (FAA, by speaker phone), Jim Mahala (DEP), Matthew DeSorbo (MAC), Carrie Phillips (NPS), Graham Giese (Provincetown Center for Coastal Studies), Gabrielle Sakolsky (CCMCP), Dennis Minsky (Provincetown Conservation Commission), David Crary (NPS) and John Portnoy (NPS).

Cape Cod National Seashore staff Smith, Gwilliam and Portnoy presented a summary of 2006 tide-height, vegetation and nekton monitoring results. A full report on this monitoring was sent to all members prior to the meeting.

D. Minsky asked about northern harrier use of the floodplain. There are usually 1-2 pairs of these raptors using the restoration area above the dike. Two reports by Seashore cooperators are in preparation.

Smith and Crary described plans for a prescribed burn of Phragmites and salt-killed shrubs this fall seaward of the airport approach. The purpose is to clear away standing vegetation that impedes the spread of wrack and seeds of salt-marsh plants. Preferred wind direction for smoke control would be from the northwest to northeast. The Seashore will coordinate with Airport authorities to ensure that this project does not create an aviation safety hazard.

J. Portnoy reported on the condition of structures whose maintenance is the responsibility of the Seashore. The culvert aprons, which began to erode in summer 2005, were repaired with the addition of much larger stones in March 2006. The aprons now appear stable but will be monitored regularly by park staff.

The earthen berm at the airport approach breached under the catwalk, reportedly (Lisenby) last summer. Portnoy noted that during construction of the catwalk, the berm was weakened and underlying peat was removed, making the berm more prone to breaching. He also noted that this peat removal created a linear pond all along the length of the catwalk which attracts waterfowl, a safety hazard to aircraft. In this regard, the breach is beneficial in improving low-tide drainage and limiting the time that the new "pond" is flooded and attractive to ducks.

B. Lisenby stated that the FAA still maintains that the berm is needed to protect the airport approach system; however, that agency and the airport are willing to tolerate the breach at least over the short term to reassess the need for the berm. Airport authorities will notify the Seashore if tidal flooding becomes a problem at the end of Runway 7 and within the ILS reflectance area to the southwest of the runway. Portnoy offered to install a water-level recorder in the area of concern; he and Lisenby will meet soon to plan this monitoring.

As agreed at last year's TRC meeting, we hereafter switch to a biennial schedule, with the next meeting planned for winter of 2008-9. Nevertheless, the Seashore will continue to produce annual reports on the progress of the restoration project.

Respectfully submitted,

John Portnoy

9.7 CZM Federal Consistency Certification

JACOBS™

343 Congress Street
Boston, Massachusetts 02210 USA
1.617.242.9222 Fax 1.617.242.9824

December 17, 2011

Massachusetts Office of Coastal Zone Management
251 Causeway Street, Suite 900
Boston, MA 02114
Attn: Project Review Coordinator

Subject: **Federal Consistency Review**
Capital Improvements Project
Provincetown Municipal Airport

Dear Project Review Coordinator,

As the consultant to the Provincetown Airport Commission, we request that your office review the proposed Capital Improvements Project for consistency with the Coastal Zone Management (CZM) program. A FEIR/EA has been prepared and submitted to MEPA. A copy has been sent to MA CZM and provides additional information on the projects.

Project Description

The Provincetown Municipal Airport Commission proposes a Capital Improvements Plan (CIP) of safety and facility improvements at the Provincetown Municipal Airport (Airport). Implementation of the CIP will fulfill the mission of the Airport to operate a safe, secure, and reliable primary service airport receiving scheduled airline passenger service.

1) Westerly Taxiway System Improvements
2) East End TW Relocation
3) Terminal Apron Reconstruction
4) Easterly End of Parallel TW Reconstruction
5) TW Lighting, Lighted TW Signs, and Electric Vault Installation
6) Sightseeing Shack Improvements
7) Access Road to MALSF Approach Lights Improvements
8) Service Roads to LES and AWOS Construction
9) Perimeter Safety/Security Fence Installation
10) Auto Parking Expansion
11) Terminal Building Expansion
12) Turf Apron Expansion

Discussion of Consistency with Applicable Program Policies

Water Quality Policy # 1: Ensure that point source discharges in or affecting the coastal zone are consistent with federally approved state effluent limitations and water quality standards.

The existing drainage system at the Airport consists of catch basins and a trench drain which have been fitted with a filtration system to intercept petroleum-based pollutants from the stormwater runoff on the Terminal Apron. The outlet has been fitted with a sediment outlet trap.

The proposed CIP projects will promote the attainment of water quality standards. The proposed drainage design for the parking lot includes BMPs such as bioretention areas and infiltration swales and complies with the current DEP Massachusetts stormwater regulations and standards to protect water quality. There are no other point source discharges at the Airport.

Water Quality Policy # 2: Ensure that nonpoint pollution controls promote the attainment of state surface water quality standards in the coastal zone.

There is limited potential for sources of non point pollution at the Airport. Salt is not applied to the runway or taxiways. Aircraft are not serviced at the Airport. Fertilizers and herbicides are not used at the Airport.

Water Quality Policy # 3: Ensure that activities in or affecting the coastal zone conform to applicable state and federal requirements governing subsurface waste discharges.

The Airport's septic system was updated in 1998 according to current standards. It is maintained in compliance with local and state and federal requirements.

Habitat Policy #1: Protect coastal resource areas including salt marshes, shellfish beds, dunes, beaches, barrier beaches, salt ponds, eelgrass beds, and fresh water wetlands for their important role as natural habitats.

The proposed CIP projects have avoided and minimized impacts to wetlands to the extent feasible. Wetland restoration is proposed and erosion controls will be incorporated into the construction plans to protect adjacent wetlands.

Habitat Policy #2: Restore degraded or former wetland resources in coastal areas and ensure that activities in coastal areas do not further wetland degradation but instead take advantage of opportunities to engage wetland restoration.

Mitigation for the projects included in the CIP includes restoration of wetlands onsite and will also include additional wetland mitigation identified during the permitting process.

Coastal Hazard Policy #1: Preserve, protect, restore, and enhance the beneficial functions of storm damage prevention and flood control provided by natural coastal landforms, such as dunes, beaches, barrier beaches, coastal banks, land subject to coastal storm flowage, salt marshes, and land under the ocean.

Natural coastal landforms will be protected or restored to the fullest extent possible. The fence alignment has been selected to minimize impacts.

Coastal Hazard Policy #2: Ensure construction in water bodies and contiguous land areas will minimize interference with water circulation and sediment transport. Approve permits for flood or erosion control projects only when it has been determined that there will be no significant adverse effects on the project site or adjacent or downcoast areas.

Natural coastal landforms will be protected or restored to the fullest extent possible. The fence alignment has been selected to minimize impacts.

Coastal Hazard Policy #3: ensure that state and federally funded public works projects proposed for location within the coastal zone will:

- *Not exacerbate existing hazards or damage natural buffers or other natural resources,*

- *Be reasonably safe from flood and erosion related damage, and*
- *Not promote growth and development in hazard-prone or buffer areas, especially in Velocity Zones and ACECs, and*
- *Not be used on Coastal Barrier Resource Units...*

The project will not exacerbate existing hazards and natural buffers have been protected. Flood studies indicate that the project will be safe from flooding. The CIP projects are not within a Velocity Zone, ACEC, or Coastal Barrier Resource Unit.

Growth Management Principle #2: ensure that state and federally funded transportation and wastewater projects primarily serve existing developed areas, assigning highest priority to projects that meet the needs of urban and community development centers.

The CIP projects will serve the existing transportation system.

Consistency Certification

The proposed activity complies with the program policies of the Massachusetts approved coastal management program and will be conducted in a manner consistent with such policies.

Sincerely,
Jacobs Engineering

Michael Garrity
Senior Airport Planner, Project Manager

cc: Heath Gatlin, Chairman, Provincetown Airport Commission
Arthur "Butch" Lisenby, Airport Manager
Michelle Ricci, FAA, Airports Division
Katie Servis, MassDOT Aeronautics